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The purposes of the study were to: (1) re-examine the resources available in order to assess the change since a 1959 study, (2) project estimates of the region's nursing needs farther into the future, and (3) identify areas needing additional action. Regional and national data came from the United States Bureau of the Census, the Outdoor Recreation Resources Review Commission, the United States Public Health Service, the National League for Nursing, the American Nurses' Association, and the state boards of nursing in the 13 Western Interstate Commission for Higher Education states. A survey of all nursing education programs secured information from 90.6 percent of the 287 programs. The findings revealed considerable progress in certain areas and the need for continued and expanded effort. Recommendations focus upon: (1) making nursing careers more attractive, (2) using nurses more effectively, (3) expanding educational opportunities, (4) accelerating curriculum development and research, and (5) disseminating effective public information. (JK)

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today and tomorrow in western nursing

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A WCHEN REPORT ON THE PRESENT WITH RECOMMENDATIONS FOR THE FUTURE
PREPARED BY THE WICHE STAFF
WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION

WICHE is a public agency through which the people of the West work together to expand and improve higher education in the region.

HISTORY:

The Commission

- was created to administer the Western Regional Education Compact, which has been adopted by the legislatures of all the 13 western states;
- was formally established in 1951, after ratification of the compact by five state legislatures; program activity began in 1953.

ORGANIZATION:

The Commission

- is composed of 39 commissioners, three from each state, appointed by their governors; they serve without pay;
- is served by a small professional staff, supplemented by consultants and representative advisory councils and committees.

PURPOSES:

The Commission

- seeks to increase educational opportunities for western youth;
- assists colleges and universities to improve both their academic programs and their institutional management;
- aids in expanding the supply of specialized manpower in the West;
- helps colleges and universities appraise and respond to changing educational and social needs of the region;
- informs the public about the needs of higher education in the West.

PROGRAM AND PHILOSOPHY:

The Commission

- serves as a fact-finding agency and a clearinghouse of information about higher education, and makes basic studies of educational needs and resources in the West;
- acts as a catalyst in helping the member states work out programs of mutual advantage, by gathering information, analyzing problems, and suggesting solutions;
- serves the states and institutions as an administrative and fiscal agent for carrying out interstate arrangements for educational services;
- has no authority or control over the member states or individual educational institutions; it works by building consensus, based on joint deliberation and the recognition of relevant facts and arguments.

FINANCES:

The Commission

- is financed, in part, by equal appropriations from the member states of $15,000 annually;
- receives grants for special projects from private foundations and public agencies; for each dollar provided by the states during the past five years, WICHE has received over three dollars from non-state sources; in the past ten years, grants have exceeded $4,000,000.

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today and tomorrow in western nursing

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PREPARED BY THE WICHE STAFF

WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION
UNIVERSITY EAST CAMPUS • BOULDER, COLORADO 80302 • APRIL, 1966

FOREWORD

Six years ago the Western Interstate Commission for Higher Education published *Nurses for the West*. That publication presented facts about available nursing resources and educational facilities in comparison with those needed. It projected the number and types of registered nurses the West would require during the following decade and identified five areas for action if the region's nursing needs were to be met. It also made recommendations for the development and improvement of nursing education.

Now that the decade of the 1960's is half spent, it is appropriate to re-examine the resources available in order to assess the degree and direction of change since 1959; to project estimates of the region's nursing needs farther into the future; and to identify areas needing continuing and additional action. To this end, *Today and Tomorrow in Western Nursing* is offered as a source of information to all those concerned with these and related problems.

The statistics contained in this publication support two general observations: considerable progress is obvious in certain areas; and the need for continued and even expanded effort is evident.

This study once again confirms the acute need for nurses with advanced degrees to provide essential leadership. Larger numbers of nurses must be prepared in new and expanded programs at all levels. This cannot be accomplished without greatly increasing the number of well-qualified faculty members to teach in the programs. Nor can the quality of nursing service in agencies and institutions be improved without the leadership of well-prepared professional nurses. If the West is to have sufficient nurses with advanced preparation for these leadership positions, the number of graduates from four-year programs must also be increased and programs at the graduate level must be expanded. Both efforts will require significant additional financial support. Moreover, to attract larger numbers of competent individuals to careers in nursing, all employers of nurses must give more attention to improving job satisfactions, monetary and otherwise.

This report differs from its predecessor in several respects. For example, it includes information about educational programs in practical nursing. Also, it compares the number of registered nurses with the number of practical nurses and auxiliary personnel employed by western hospitals. It also presents information about salaries offered to newly licensed registered nurses in the several states.

A publication such as this requires the efforts of many individuals and organizations, and the people of the West are indebted to all those who participated in its production. Special appreciation is due to the W. K. Kellogg Foundation for the financial support which made this publication possible.

The Western Council on Higher Education for Nursing has given strong support and guidance to this study, and especially members of the WCHEN Executive Committee, including: Lulu Wolf Hassenplug, Dean, School of Nursing, University of California at Los Angeles; Maureen Maxwell, Director of Graduate Programs, School of Nursing, Loma Linda University; Rheba deTornyay, Director, School of Nursing, California State College at San Francisco; Bernice Orwig, Associate Professor, School of Nursing, University of Oregon; Ruth Swenson, Director, Associate Degree Nursing Program, Weber State College; and Mildred Quinn, Dean, College of Nursing, University of Utah. The basic data could not have been collected without the complete cooperation of the schools of nursing, the state nurses' associations, the state boards of nursing, and the Division of Nursing of the U. S. Public Health Service. We are grateful to all of these agencies for supplying information and for providing valuable consultation.

The report was compiled and written by Nona Tiller Pair. Lee Gladish provided special editorial and production assistance.

Robert H. Kroepsch
Executive Director
Western Interstate Commission
for Higher Education

Boulder, Colorado
April 1966

METHODOLOGY

Current information relevant to nurses licensed to practice is extremely difficult to procure on a regional basis. Although some of the western states were able to supply complete information concerning registered nurses licensed to practice in 1964, other states do not collect complete data for a specified period. For this reason, it was necessary, in most instances, to utilize information collected during the 1962 inventory of registered nurses conducted by the American Nurses' Association. For the individual state summaries, the most recent available data were used; thus, for some states, information reflects the registered nurses employed in 1962, and, for others, those employed in 1964. Data concerning licensed practical nurses, comparable to that utilized for registered nurses, could not be supplied by the majority of states, and was not available from any national source. One need that became increasingly apparent during the course of this study was for comparable and recent data for a specified period of time from each state concerning registered and practical nurses licensed to practice.

Regional and relevant national data in this report came from various sources: the U.S. Bureau of the Census, the Outdoor Recreation Resources Review Commission, the U.S. Public Health Service, the National League for Nursing, the American Nurses' Association, and the state boards of nursing in the thirteen western states. Additional data specifically for this report were contributed by twelve of the state nurses' associations. A mailed questionnaire survey of all nursing education programs—practical, diploma, associate, baccalaureate, and graduate—secured information from 90.6 percent of the 287 programs in the region.

In contrast to *Nurses for the West*, this report includes data on practical nurse educational resources and the number of practical nurses employed in the hospitals of the region, as well as parallel information on registered nurses and schools preparing students for licensure as registered nurses.

Following publication of *Nurses for the West*, one representative to the Western Council on Higher Education for Nursing from each state accepted responsibility for initiating action at the state level as recommended in that report. In most states a committee was appointed or an existing committee of another organization, *e.g.*, the state league for nursing, was utilized to select and carry out the activities deemed most urgent and important. Reports from the state committees comprise Appendix A of this report.

The number of registered nurses needed in the future has been projected on two bases—first, to maintain current nurse-population ratios; second, to achieve a ratio of 400/100,000. Achievement and maintenance of a registered nurse force of the desired composition according to the highest academic credential has been assumed in these projections. All tables basic to the text and charts are in Appendix B. Each table includes a complete citation as to the source of data. All percentages reported have been rounded to the nearest tenth, with forced rounding utilized to bring percentage totals to 100.0.

Appendix C is comprised of individual state summaries of the current level of nursing resources in proportion to population, estimates of future needs, data concerning graduates from nursing educational programs during the 1959-64 period, information concerning current enrollment in nursing educational programs, a summary of present nurse faculty by highest academic credential, and a projection of future needs for nurse faculty. Sources of data reported on the state summaries and methods of computing future needs are reviewed in the Introduction to Appendix C.

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UNTIL quite recently in nursing education history, no one was confused about the meaning of the word *nurse*. The patient knew what a nurse was, and what to expect from her. . . . Now there are nurses' aides, vocational nurses, staff nurses, nurse supervisors, public health nurses, industrial nurses, and training and leading this conglomerate group are nurse teachers. Not long ago a nurse was trained for three years in a hospital with the hospital bed and its occupant as her laboratory, received a maximum of practicum and a minimum of didactics on the theory that the doctor knew all and would order all. The trend is now in the opposite direction because the nursing profession is engaged in the stressful business of growing up . . . it is attempting to use a variety of scientific discoveries to enrich and improve nursing skill and broaden perspectives.

FRANK F. TALLMAN
University of California at Los Angeles

HIGHLIGHTS

THE NURSING SITUATION IN THE WEST 1957-1965

- The rate of population growth in the West, 1957-1962, was double that of the nation.

- The nurse-population ratio in the West improved from 275 to 324 per 100,000 residents between 1957 and 1962. However, in 1962, six western states had fewer than 300 nurses per 100,000 people.

- The West's 1962 nurse-population ratio was higher than that of the entire nation, but lower than that of twelve of the states and the District of Columbia.

- The number of registered nurses employed in the West in 1962 exceeded the 1957 figure by 25,200. With an estimated total attrition of 15,200 and only 15,900 graduations from pre-service nursing programs, 24,500 must have been added through migration from other regions of the United States and through return to practice by nurses inactive in 1957.

- The 14,086 students enrolled in western programs leading to licensure as registered nurses in 1965 exceeded the 10,350 so enrolled in 1957 by 36 percent.

- Approximately 60 percent of the students enrolled in pre-service programs leading to licensure as registered nurses in the West in 1965 were in associate degree or baccalaureate programs of colleges and universities. The comparable figure for 1957 was 40 percent.

- Auxiliary workers accounted for between 33 and 66 percent (varying with the type of hospital) of the nursing service department staffs of western hospitals in 1962. Practical nurses accounted for an additional 17 percent.

- The ratio of public health nurses to population in the West was reduced from 1 nurse to 5,052 individuals in 1960 to 1 to 5,022 in 1964.

- Admissions to pre-service programs leading to licensure as registered nurses equalled 3.9 percent of western girl high-school graduates, 1961-62, and 3.6 percent, 1962-63. Comparable national percentages were 5.7 and 5.1.

- Admissions to master's level programs in nursing in the West in 1964 exceeded those in 1959 by 30 percent, and graduations in 1964 were almost double those of 1959.
- Salaries offered in beginning registered nurse positions in the West in 1965 were generally lower than those offered new baccalaureate graduates with majors in other fields.
- In no western state were the average annual graduations from nursing programs, 1959-1964, equal to the average number of additional nurses needed annually, 1958-1970, as identified in *Nurses for the West*, to maintain 1957 nurse-population ratios.
- In Montana and Utah only were the 1964 graduations from nursing programs equal to the average number of additional nurses needed annually, 1958-1970, as identified in *Nurses for the West*, to maintain 1957 nurse-population ratios.
- Of the 3,623 students enrolled in western practical nursing programs, January 1965, 67 percent were between seventeen and twenty-one years of age.
- Of the students enrolled in practical nursing programs 39 percent were between seventeen and twenty-one years of age, and were also high-school graduates.

PREDICTION OF FUTURE NEED

- By 1970, the West will have nearly 33 percent more people than in 1960; by 1976, population will exceed that of 1960 by 50 percent; and, by 2000, the population will be 250 percent that of 1960.
- To maintain its 1962 nurse-population ratio, the West must have 119,000 employed registered nurses in 1970; 133,000 in 1976; and 226,000 in 2000.
- Just to maintain the present ratio will require an additional 3,300 nurses per year, 1962-1970, above normal replacements, and achievement of the optimal ratio of 400/100,000 will require 6,700 per year.
- The most critical needs cannot be met through simply adding to the total number of employed registered nurses. The proportion with graduate-level preparation essential for faculty and other leadership positions must be increased to six times the 1962 figure; the proportion with baccalaureate preparation must be increased from 15 to 20 percent.
- The West should become less dependent upon migration of nurses from other states to meet its needs.

ACTION FOR THE FUTURE

- Nursing careers, in terms of financial rewards and other satisfactions, must be made more attractive.
- The unique knowledges and skills of nurses must be utilized more effectively.
- Opportunities for educational preparation in nursing must be extended.
- Research effort in nursing and in nursing education must be expanded and accelerated.
- Potential students and the public must be better informed about nursing and nursing careers.

TODAY AND TOMORROW IN WESTERN NURSING

PART I

INTRODUCTION

For more than two decades, the nation and the western region have been aware of a qualitative and quantitative gap between available and desired nursing resources. The depth of society's concern arising from failure to meet adequately nursing needs is evidenced by the frequent references to the nursing shortage in both lay and professional literature. The many studies directed toward measurement of the gap between supply and demand, identification of its basic causes, and selection of courses of action toward its closure further reflect this concern.

Background of the Problem

The entire history of nursing as an endeavor requiring specific preparation for effective performance is contained within an era marked by striking change in society, in its structures, in its value system, and by multiplication and re-multiplication of the store of knowledge available for application to the problems of mankind.

In spite of these changes in the milieu of nursing and the expansion of available knowledge, traditions developed during the early years of modern nursing have been cherished and only reluctantly discarded. Movement of nursing education out of the service institution—the hospital—and into the educational system—the college or university—has been slow, although it is currently accelerating. Change in the organizational structure of hospitals and health agencies and in the functions of their nursing departments has not been readily accepted. The search for new knowledge and the testing of the applicability of discoveries from other disciplines to nursing have not matched, in either depth or scope, that in other professions. Differentiation of types of nursing practice, in terms of the knowledge and/or skills demanded, has encountered multiple barriers. Monetary rewards remain lower in nursing than in other fields making comparable demands upon the individual.

The present inability to meet the nursing needs of the people of the nation and the region is based upon a number of interrelated factors. These factors include: too many nurses prepared in vocational and technical programs as compared with the number prepared in baccalaureate and graduate programs; assignment of too small a share of the educational dollar to nursing; insufficient research in nursing; inefficient utilization of the unique knowledges and skills of nursing practitioners; failure to make available to nurses rewards and satisfactions comparable to those provided in other occupations and professions; and lack of planning for the increased nursing resources demanded by the discovery and utilization of new prophylactic and therapeutic measures and by socio-economic change.

How Many Registered Nurses are Needed?

In *Nurses for a Growing Nation*, a ratio of 300 to 350 nurses for each 100,000 persons was proposed as a supply level which would make possible gradual improvement in nursing services.[1] The inability of states which have ratios of 300 to 350 to meet the nursing needs of their residents shows the inadequacy of those ratios.

The Surgeon General's Consultant Group on Nursing foresaw a need for 850,000 employed registered nurses in the United States by 1970.[2] Comparison of that figure with projected population estimates for that year indicates a need for slightly more than 400 registered nurses in practice for each 100,000 residents. *The Nation's Nurses*, the published report of the 1962 inventory of registered nurses, indicates that several states had 1962 nurse-population ratios above 400/100,000.[3] Since these states do not report an excess of registered nurses available, it must be concluded that their supply does not surpass need.

It appears, then, that planning for the next five to ten years should be directed toward the achievement of a nurse-population ratio of no less than 400/100,000. Later evaluation should indicate goals for the more distant future.

Statements Relative to Nursing Education

In 1963, the Western Council on Higher Education for Nursing recognized three categories of nurses which can be clearly identified on the basis of their education and accepted the following descriptions of these categories:

> *Vocational* — prepared in a certificate program. The vocational nurse is qualified to nurse certain kinds of patients and to give certain medications and treatments under the supervision of physicians and/or registered nurses. The patients served by these workers may be in hospitals, offices, or homes.
>
> *Technical*—prepared in a diploma or associate degree program. This worker is qualified to provide complete technical nursing care to patients in hospitals, offices, or homes, where supervision is available from physicians and from nurses with preparation at the baccalaureate or higher degree level.
>
> *Professional*—prepared in a baccalaureate degree program. This worker is qualified to plan, organize, and provide complete nursing care to patients in hospitals, offices, and homes. In addition, they are prepared to function as team leaders and to work with allied professional groups in planning and implementing continuity of patient care and in promoting and implementing optimum family and community health programs.

The American Nurses' Association's first position on "Education for Nursing," published in December 1965, states that: "Education for those who work in nursing should take place in institutions of learning within the general system of education."[4] The statement identifies minimum preparation for professional nursing practice as the baccalaureate degree in nursing and for technical nursing practice as the associate degree in nursing. The statement also locates the education for assistants in the health service occupations in vocational education institutions as short, intensive pre-service programs rather than in on-the-job training programs.[5]

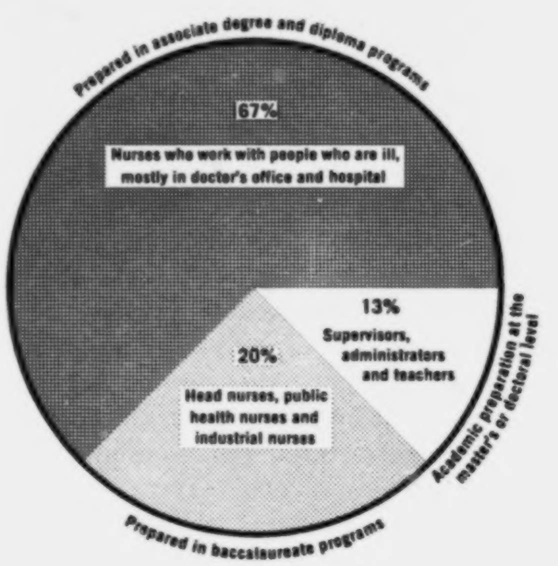
Composition of the Registered Nurse Work Force by Type of Preparation

The National League for Nursing estimated in 1957 that 67 percent of the employed registered nurses worked in situations in which supervision or direction is available and expected; 20 percent in situations requiring a greater degree of independence and some supervision of other workers; and 13 percent in leadership positions in hospitals and public health agencies or on faculties of schools of nursing. For the first group, preparation in a diploma or associate degree program was foreseen; for the second, baccalaureate preparation; and, for the third, master's or doctoral preparation.[6]

Estimated percentages of registered nurses in the nation with each level of academic preparation, in 1962, were as follows: master's or above —2.1; baccalaureate—7.9; and diploma or associate degree—90.0.[7] Estimates of the percentage of registered nurses in the thirteen western states with each academic credential, prepared from unpublished data collected for the above report, are: master's or above—2.1; baccalaureate—15.1; and diploma or associate degree—82.8.

The West has a larger percentage of its nurses with baccalaureate preparation than does the nation and, correspondingly, a smaller percentage with diploma or associate degree preparation only.

Figure 1. Nurses Have Different Degrees of Responsibility . . ., and Need Preparation at Different Levels



Source: Developed from *Nurses for a Growing Nation*, National League for Nursing, 1957, p. 21

However, neither the region nor the nation has achieved a registered nurse work force of the composition recommended in 1957.

Planning directed toward improvement of the nursing resources of the West during the next few years should strive for a registered nurse work force comprised of no less than 13 percent with graduate preparation, 20 percent with baccalaureate preparation, and the remainder with technical preparation secured in diploma or associate degree programs.

Other Workers in the Field of Nursing

During the past ten to fifteen years, many schools of practical nursing have been established, and licensure of this group of practitioners has been provided by the states. As originally planned, these workers were to function under the supervision of physicians and/or registered nurses in the performance of the less complex tasks of nursing or at a level for which preparation in one year would suffice. In actual practice, however, more and more demanding functions have been assigned to practical nurses, with resultant pressure either to extend the basic program or to provide for additional formal preparation. Since such extended programs would approach the associate degree programs in both content and the time required for completion, such expansion is questioned. To date, no guidelines as to the number of practical nurses needed who could be utilized productively by any population group have been established. It is obvious that the need for registered nurses prepared in either technical or professional programs cannot be met by increasing the numbers of licensed practical nurses.

Auxiliary workers in nursing service are given a variety of titles, such as nurses' aides, orderlies, and nursing assistants. These workers are presently employed by many hospitals and similar institutions in numbers equalling or exceeding the number of registered nurses. Preparation of these workers for performance of the functions assigned is largely limited to on-the-job training provided by the employing institution and varies widely in quality and content. The level of nursing care provided in some institutions and hospitals has been dangerously diluted by the excessive utilization of this category of worker.

The Goals of Nursing

A clear and succinct statement of the goals of nursing is contained in the following quotation:

> The ultimate aim of nursing education and nursing service is the improvement of nursing care. The primary aim of each is different.
>
> The primary aim of nursing education is to provide an environment in which the nursing student can develop self-discipline, intellectual curiosity, the ability to think clearly, and acquire the knowledge necessary for practice. Nursing education reaches its ultimate aim when recent advances in knowledge and findings from nursing research are incorporated into the program of study in nursing.
>
> The primary aim of nursing service is to provide nursing care of the type needed, and in the amount required, to those in need of nursing care. Nursing service reaches its ultimate aim when it provides a climate where questions about practice can be raised and answers sought, where nursing staffs continue to develop and learn, and where nurses work collaboratively with persons in other disciplines to provide improved services to patients.
>
> These aims—educating nurses and providing patients with care—can only be carried out when nurses in education and in service recognize their interdependence and actively collaborate to achieve the ultimate aim of both—improved nursing care.[8]

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[1] *Nurses for a Growing Nation* (New York: National League for Nursing, 1957), p. 10.

[2] *Toward Quality Nursing,* Public Health Service Publication No. 992 (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1963), p. 21.

[3] *The Nation's Nurses* (New York: The American Nurses' Association, 1965), p. 24.

[4] "Education for Nursing," *The American Journal of Nursing,* Vol. 65, No. 12 (December 1965), p. 107.

[5] *Ibid.,* p. 106-111.

[6] *Nurses for a Growing Nation,* pp. 20-21.

[7] *Nurses for Leadership,* Public Health Service Publication No. 1098 (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1964), p. 14.

[8] "Education for Nursing," p. 111.

WESTWARD MOVEMENT

The movement of people across the Atlantic did not stop at the East Coast or the Great Plains, but continued on across North America in the 19th century. Since the end of World War II, migration to California has averaged, year after year, 1,000 to 1,500 individuals per day. The World Health Organization recently published the results of a study of the needs of every additional thousand people in a U.S. metropolitan area. They include 4.8 elementary school rooms, 3.6 high school rooms, 8.8 acres of land for schools, parks and play areas, an additional 100,000 gallons of water daily, 1.8 new policemen and 1.5 new firemen, one new hospital bed, and a fraction of a jail cell.

The real significance of the movement to the West Coast states is not the number of people involved, where they came from, or what their needs are, but instead the fact that there is simply nowhere else to go. From the time the westward tide began to flow, roughly between the first and second centuries A.D., there has been somewhere else to go, but Hawaii is too small and the Far East is too crowded. This is "the place," and here western man must finally make his stand without escape to new frontiers.

There is a curious fact about the westward movement of people that differentiates it both from the parallel in natural history and from the tide that engulfed the Roman Empire. Migration in ancient times was largely tribal, masses of people on the move. The modern movement has been basically individual. Even the earliest migrations to North America in hope of finding religious freedom stemmed from joint decisions made by individuals who had arrived at separate decisions. Migration to the West Coast has been almost totally a matter of individuals or immediate families. This is important to the makeup of our population because it means that only the restless and the courageous have made the move. There has been a kind of natural selection of the human species that we may not understand for two or three hundred years.

We cannot understand the changing West unless we understand what these people sought and continue to seek, and what has been done with what they found and continue to find.

Ralph E. Boynton
Vice President, Training and Development
Bank of America, San Francisco

A MULTI-CULTURAL STATE

It is a state known for many things—the spirit of Aloha, which, to be sure, has been somewhat abused through commercialization but still exists as a real force. The climate is magnificent, with temperatures ranging from approximately 60 to 80 degrees the year round. And the land is in many places as indulgent as the climate, so that large areas are covered with lovely green growth and beautiful flowers. Yet there are also deserts and sheer, stark cliffs and acres of recent lava flow, and at times the violent beauty of an active volcano. But probably the most interesting thing about Hawaii is not its land or its climate or its location but rather its people, for this is the only truly multi-cultural state in the United States.

Dr. Thomas H. Hamilton
President, University of Hawaii

THE MOUNTAIN WEST

We of the Mountain States share many historical and cultural ties. Our economic backgrounds include strong reliance on agriculture and mining. Our earliest population was Indian, and the problems of the modern Indian are our problems. Although large cities continue to expand on our deserts and plains and in the shadow of our mountains, it is only in the past quarter-century that we have moved from a rural to a predominantly urban population. The images of the old frontier are still living memories. Indian fighters, gold rush, railroad construction, ranch wars, and vigilante justice have all moved across our historic states.

The wide-open spaces are still important to western life. Westerners tolerate urban living with the reassuring knowledge that they are only a few hours distant from trout stream or ski run. The people in the West want to keep these wide-open spaces and this recreation, and they have joined in planning and conservation groups in unprecedented numbers.

Since 1950 the West has grown twice as fast as the rest of the nation. A surge of new life much like the frontier spirit—what Frank Lloyd Wright called the "great western tilt"—is pouring millions of people into these states. There tends to be a dynamic society, rather than a stabilized social order.

Hon. Jack M. Campbell
Governor of New Mexico

ALASKA'S PEOPLE

In attempting to understand Alaska's social problems and forces, it is necessary to consider Alaskans as two separate major racial or cultural groups—the indigenous and the non-indigenous. As in other colonial areas, the first group is lumped together by other Alaskans under the label "natives," despite the great ethnic and cultural differences within it. The number of Alaskan natives in 1963 was estimated by the U.S. Bureau of Indian Affairs as 47,200, of which 24,900 were Eskimos located for the most part in the western and northern edges of the state; 16,200 were Indians, the majority in the southeast panhandle and the balance scattered widely over the interior; and 6,100 were Aleuts, mainly concentrated in the Aleutian and Bristol Bay areas. The non-native population of about 198,000 contains 33,000 military personnel, with probably about 50,000 dependents, and other civilians directly identifiable with the military establishment. Most of the remaining non-native and non-military Alaskans are concentrated near the military.

As a group the non-native Alaskan lives almost entirely in what the census classifies as "urban places." More than half live in only two such places. Growth has been phenomenal and far in advance of community planning and development. Our two principal cities, Anchorage and Fairbanks, are still surrounded by sprawling slum and exclusive residential areas having in common a lack of adequate water and sewerage facilities. We are still attempting to organize and establish units of local government to deal effectively with the problem outside our incorporated cities and towns. Northern physical conditions add unusual public health problems to this already precarious condition.

The population itself is highly mobile and lacks community roots.

Dr. George W. Rogers
Research Professor of Economics
University of Alaska

Selected quotations from *The Changing West: Implications for Higher Education* (Boulder, Colo.: Western Interstate Commission for Higher Education, 1965).

PART II

THE WEST -- 1957 to 1962

A Review of Change

Population Growth

The West's anticipated future need for nurses, as reported in *Nurses for the West*,[1] was based on an estimated population increase of ten million between 1958 and 1970. The accuracy of these estimates has been proven by an average population increase in excess of 850,000 during each of the first five of those twelve years.

The rate of population growth of the West continued to be almost double that of the nation. In two western states, the number of residents increased at a rate approximately four times that of the entire United States. Only four of the thirteen western states experienced a population growth rate lower than the national figure. (Table 1)

The total number of persons added to the West's population between 1957 and 1962 equalled the combined 1957 populations of Arizona, Colorado, New Mexico, and Utah.

Hospital Usage

Although nurses serve society in a variety of settings, two-thirds of the nurses currently employed in the United States work in hospitals. For this reason, trends in hospital usage patterns can be expected to affect not only the total number of nurses needed but also the percent with each type of academic preparation.

Comparisons between the rate of increase in the daily average census of hospitals of the West during this five-year period with that of hospitals in the entire United States indicate that the average number of hospitalized persons grew less rapidly in the West than in the nation, although the West's population growth rate was twice the national rate. (Table 2) In 1957 one person for each 130 residents of the U. S. was accounted for in the daily average census of the hospitals; the figure for the West was one for each 145 residents. By 1962 the U. S. ratio had dropped to one person for each 132 residents, and the West's to one person for each 165 residents.

The volume of existing or future nursing needs of either the nation or the region should not be measured solely in terms of the number of persons hospitalized at present, or anticipated in the future. However, the ready availability of data concerning hospital usage makes tempting the use

Figure 2. 1962 Population as Percent of 1957, U. S. and the West

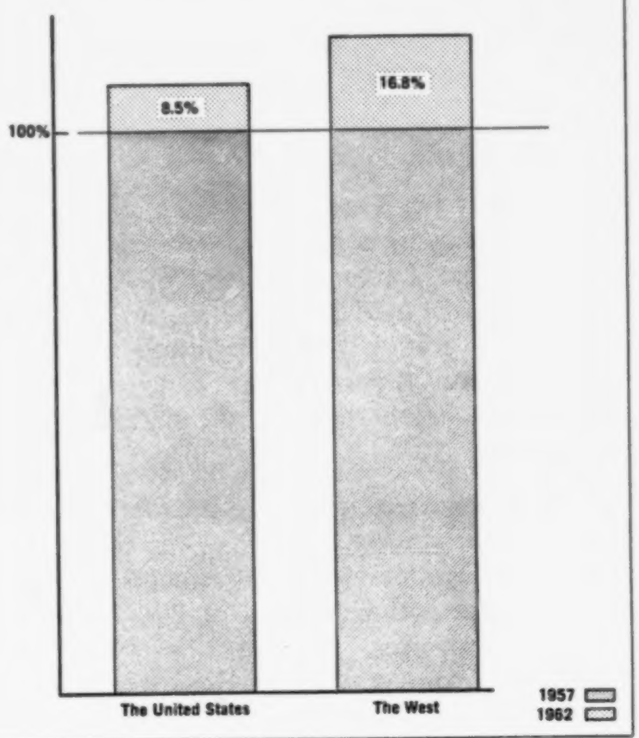
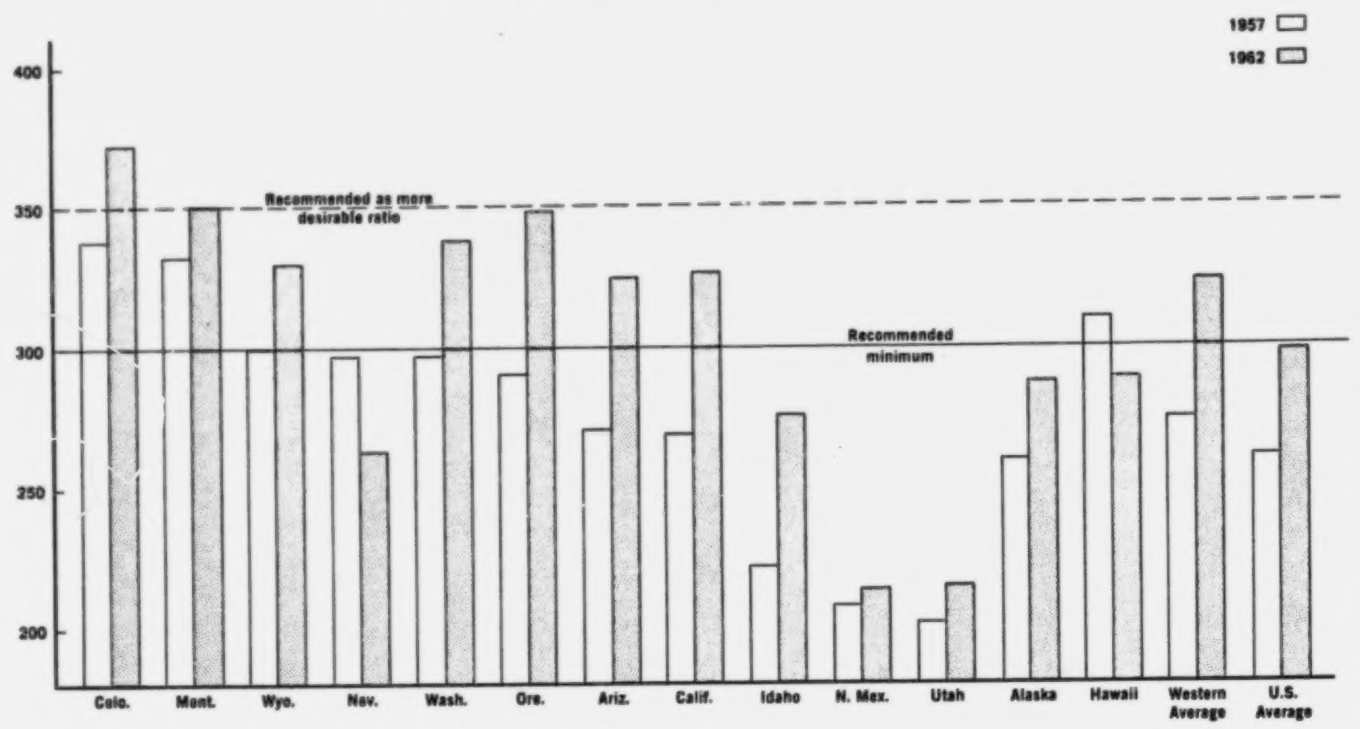


Figure 3. Nurse Population Ratios of the Thirteen Western States, 1957 and 1962



of such statistics in the planning for the future. Variation between national and regional hospital utilization should be kept in mind, and the factors underlying the differences identified if regional or state plans are to be based on such data. It would seem possible, for example, that the rate of hospital usage in the West might become more comparable to that of the nation as population of the region increases and becomes more urbanized. Another possibility in the West is that a larger portion of the nursing services provided will be supplied in the recipients' homes than will be true nationally, and that the West will need a higher percent of nurses prepared to give care in the home.

Nurses in Ratio to Population

The West has long enjoyed a more favorable ratio of nurses to population than that of the nation. In 1910, for example, the West had nearly double the national nurse-population ratio. The West's lead gradually declined until in 1957 the West had only 5 percent more nurses in proportion to population than did the nation.

During the five years between 1957 and 1962 the West improved its nurse-population ratio at a pace slightly more rapid than the national one. The 324 nurses per 100,000 residents in the West exceeded the national figure of 298 by nearly 9 percent. However, the West's 1962 nurse-population ratio was lower than that of twelve of the remaining thirty-seven states and the District of Columbia. (Table 3)

Six western states had 1962 nurse-population ratios of less than 300 per 100,000 residents; in two of these states population growth between 1957 and 1962 had outstripped the increase in the number of employed nurses and the 1962 nurse-population ratios were lower than in 1957.

Progress Toward Goals Established

Nurses for the West predicted the number of additional nurses the West needed to add to its work force between 1958 and 1970 on four different bases—(1) to maintain the 1957 nurse-population ratio, (2) to achieve a ratio of 300/100,000, (3) to achieve a ratio of 350/100,000, and (4) at 9.5 hospital beds per 1,000 population. These added nurses were to replace those retiring from the work force as well as meet the needs of a larger population.

The estimated average annual attrition for the 1958-1970 period reported in *Nurses for the West* was 3,040. On this basis, a total of 15,200 nurses retired and were replaced during the five-year period. The number employed in 1962 exceeded the number employed in 1957 by approximately 25,200. Thus, the West must have added roughly 40,500 nurses to its work force between 1957 and 1962. If a 1970 ratio of 350 nurses per 100,000 is to be achieved—and a lesser figure currently appears highly inadequate—the West barely kept pace. Forty-three percent of the additional nurses

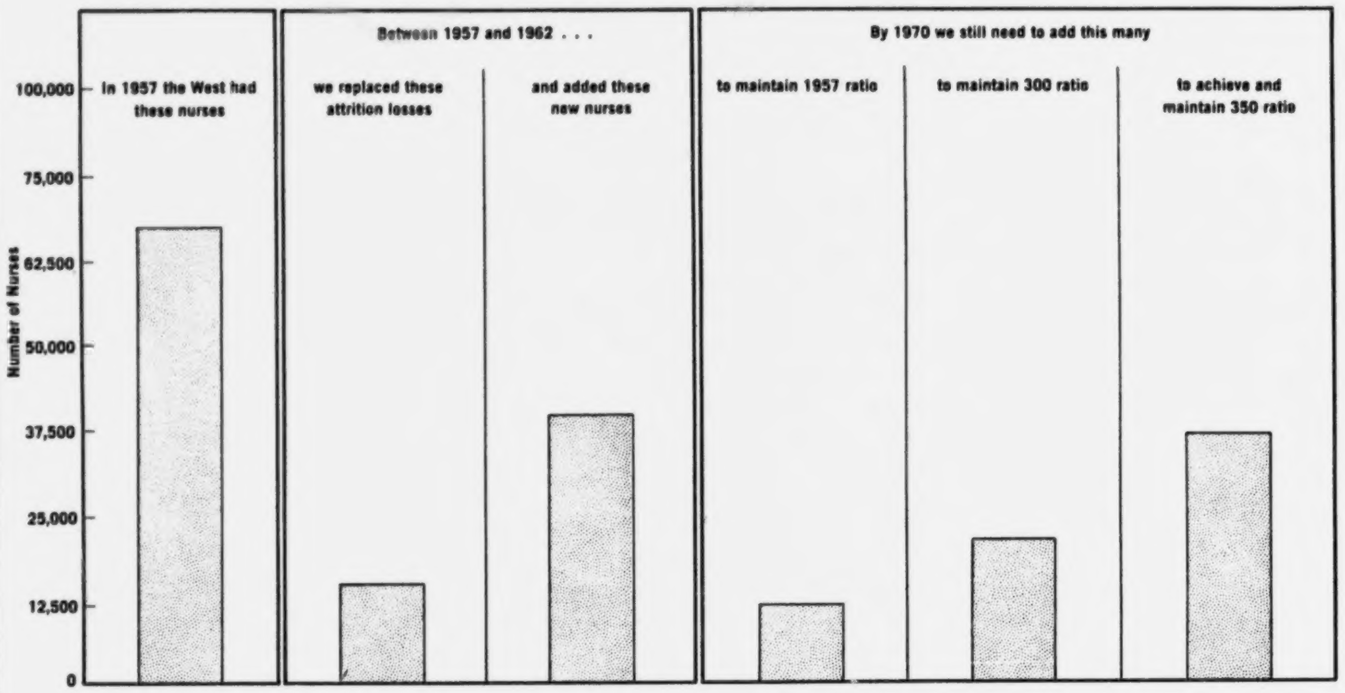


Figure 4. Progress Toward Meeting Needs by 1970 Predicted in 1959

needed have been added in 42 percent of the time allotted. It is probable, however, that a higher percent of those employed in 1962 worked part time than was true of those employed in 1957.[2] To the extent that growth in the number of nurses employed part time exceeded the rate of increase in full time employees, the West had not, by 1962, added a sufficient number of new nurses to reach a goal of 350 nurses per 100,000 people by 1970.

Summary

The West changed during these five years. Its population increased by 17 percent, the daily average census of patients in its hospitals grew by 3 percent, and the ratio of nurses to population improved by 18 percent. However, six of the thirteen western states had 1962 nurse-population ratios of less than 300 per 100,000, and a study in Colorado, the state with the most favorable nurse-population ratio, indicates that a reported ratio of 372 employed registered nurses for each 100,000 residents is not adequate.[3]

Clearly, much remains to be accomplished if the West's nursing needs of the future are to be met.

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[1] *Nurses for the West* (Boulder, Colorado: Western Interstate Commission for Higher Education, 1959). Subsequent references by title only.

[2] *Facts About Nursing* (New York: American Nurses' Association, 1965), p. 7.

[3] *Toward Statewide Planning for the Education of Nursing Practitioners in Colorado* (Wheatridge, Colorado: Colorado League for Nursing, 1963), p. 4.

PART III

FUTURE POPULATION GROWTH AND DEMANDS FOR NURSING

Estimates of population growth are essential to the planning of adequate future nursing resources, but such estimates are not infallible. Rates of population growth are affected by a variety of factors, and projections of population figures require revision as changes occur. These revisions, in turn, require alteration in the predictions of the number of nurses needed to reach or maintain certain nurse-population ratios.

However, future needs for nursing resources cannot be met if comprehensive plans are not developed in the immediate future. The nurse leaders of 1976 graduated from basic nursing programs during the 1940's and 1950's; those for the year 2000 are now either enrolled in basic programs or are still in high school.

Plans developed during the next few years will require revision from time to time but the need for such revisions should not serve as justification for delay in planning.

Population Growth

The projected population figures utilized in the computation of the number of employed registered nurses needed in the future to maintain and/or improve the 1962 registered nurse-population ra-

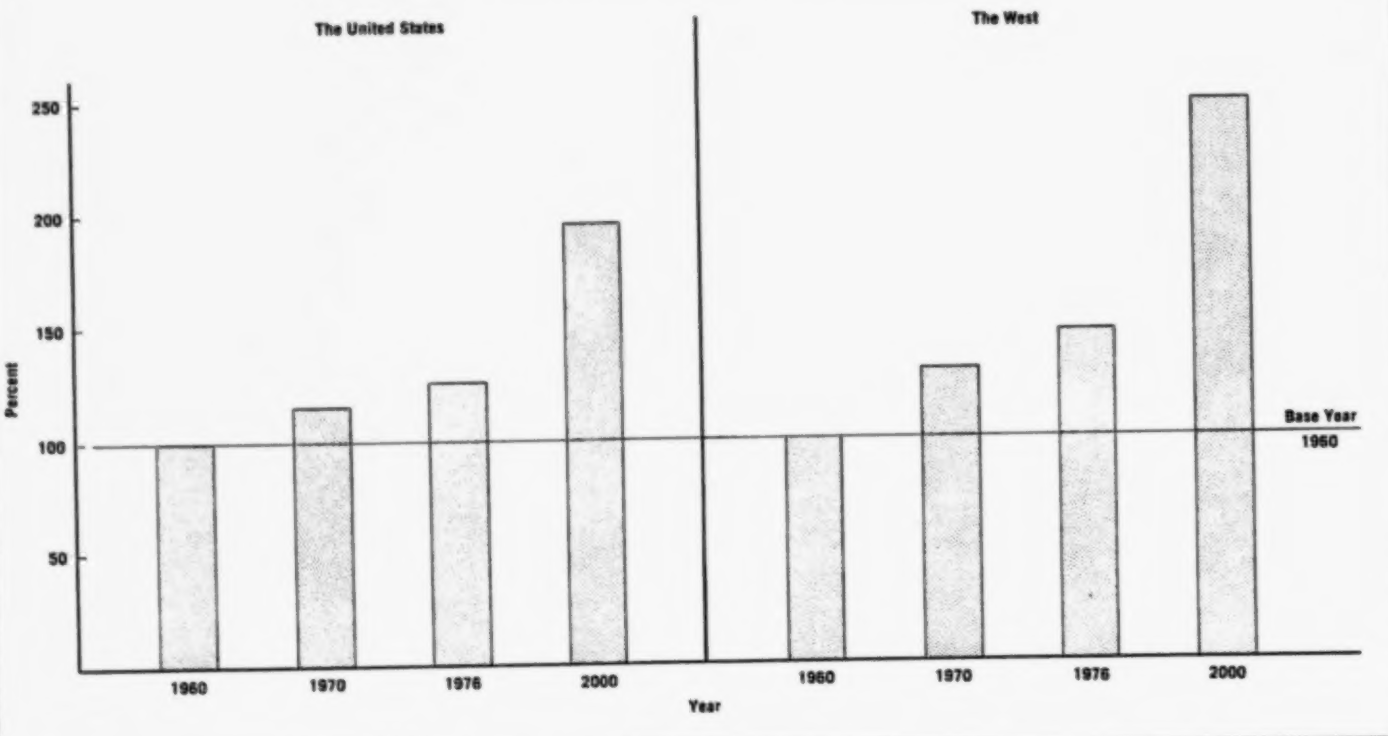
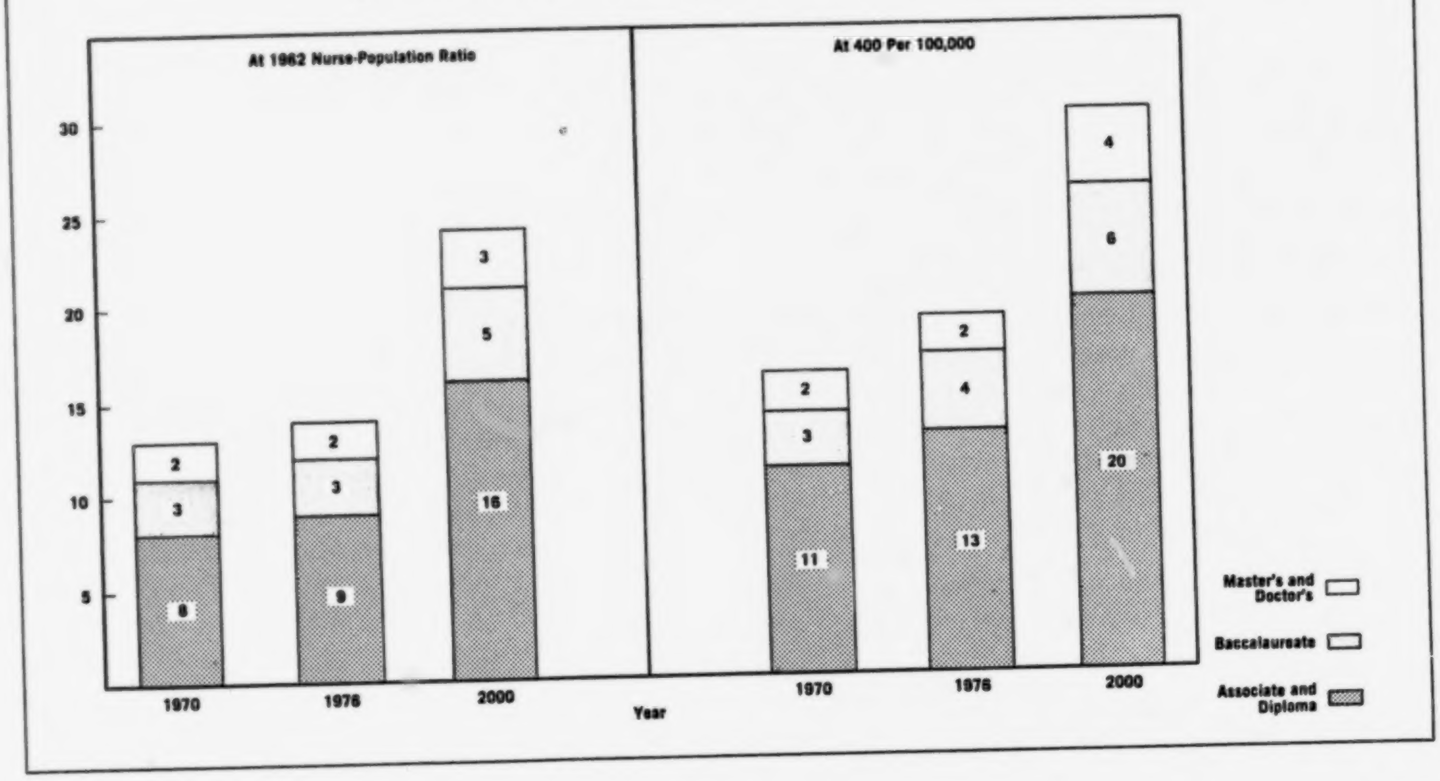


Figure 5. Projected Population Growth as a Percentage, the U. S. and The West

Figure 6. For every 10 Registered Nurses Employed in 1962, The West Will Need to Employ



tios indicate that population growth of the West, and of the majority of the individual western states, will continue to exceed that of the nation as a whole.* (Table 4)

It may be that, as larger and larger percentages of the national population reside in the region, the West will be able to depend less and less on migration of registered nurses from other states to meet its needs.

Future Need for Nurses

Nurses For a Growing Nation suggested as a base for future planning two registered nurse-population ratios—300 per 100,000 as a conservative figure, and 350 per 100,000 as a means of more rapidly improving the nursing services. That publication also estimated that approximately 5 percent of the employed work force are lost through attrition each year.[1]

Although even the more conservative of these two ratios has not been attained nationally, the West, and most of its thirteen states, had more than 300 employed registered nurses for each 100,000 residents in 1962. In fact, two western states (Montana and Colorado) had reached or surpassed the ratio of 350 nurses per 100,000 population. Even in those two states, however, hospitals and other employers of registered nurses indicated need for additional numbers of registered nurses. Auxiliary workers in nursing departments of some hospitals have multiplied to an alarming percentage of the total staff. It appears then, that the figures proposed in 1957 were indeed conservative, and somewhat larger numbers of nurses in proportion to population are needed if society's expectations for nursing services are to be fulfilled.

Recent legislation indicates a growing awareness on the part of society that the needs of the individual for health services should not be evaluated solely by his ability to pay for such services. This factor, coupled with growth in insurance coverage, increased life expectancy, and availability of new prophylactic and therapeutic measures, may create demands for nursing services that cannot be met without drastic increase in registered nurse-population ratios and without improved utilization of the unique abilities of nurses.

The national inventory of registered nurses indicates that in 1962 five of the fifty states plus the District of Columbia had nurse-population ratios of above 400/100,000,[2] and computations completed during the course of the present study indicate that as of 1964 one western state (Colorado) had achieved a ratio of 407/100,000. There is no indication from these states of an inability to utilize the number of registered nurses available. Therefore, it would appear that in planning for the future the West should regard the ratio of 400 registered nurses to each 100,000 residents as a desirable goal.

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*Note: Since the 1970 projection is from a different source than those for 1976 and 2000, the population decline in New Mexico between 1970 and 1976 probably results from the use of different underlying assumptions for the computation of statistics. The only states in which the predicted population growth for the entire period does not exceed the national figure are Idaho and Wyoming.

To Maintain 1962 Nurse-Population Ratios

If the West is to maintain its 1962 ratio of registered nurses to population, approximately 28 percent more registered nurses must be employed in 1970 than in 1962. By 1976 the registered nurse work force must be 43 percent larger than in 1962; and by 2000, it must be nearly 250 percent larger. (Table 5)

It should be borne in mind that these figures cannot be achieved without replacing the 5 percent annual attrition rate, as well as adding to the total number employed. By 1976 it might be anticipated that 70 percent of the nurses employed in 1962 would no longer be members of the work force. If our estimates are accurate, nearly 70,000 registered nurses will be needed to replace those who temporarily or permanently retire, and another 40,000 will be needed to increase the size of the work force. This total number of approximately 110,000 additional registered nurses needed would require an average of nearly 8,000 additional nurses each year between 1962 and 1976. The primary sources available for these additional nurses are graduates of schools of nursing, recruitment from other states, and return to duty from inactive status. During the five-year period from 1959 to 1964 western schools of nursing graduated a total of 15,900 individuals eligible for registration—or an average of only 2,650 per year.

If the West achieves a ratio of 400/100,000 by 1970, the registered nurse work force will number almost 147,000—or 58 percent larger than the 1962 figure. By 1976 almost 164,000 would be needed to maintain this ratio; and, by the end of the century, 279,000. Again, achievement and maintenance of a registered nurse force of the required size would necessitate replacement of the 5 percent annual attrition rate, as well as securing enough additional new nurses to increase the size of the total work force.

The responsibilities accompanying nursing positions vary. Some nurses work in situations in which supervision is readily available, others provide supervision, and still others work in situations requiring considerable independence of action. For this reason, not all nurses require the same type of academic preparation as a basis for their continuing performance.

Included in *Nurses for a Growing Nation* was an estimate of the proportion of the total registered nurse work force who carry the varying degrees of responsibility. Approximately 67 percent of the registered nurses work in situations in which supervision is readily available; preparation for these nurses may be secured in associate degree programs or diploma schools. About 20 percent of the employed registered nurses work in situations requiring a greater independence in action and/or may direct other workers; education for these at the baccalaureate level is desirable. The remaining 13 percent serve in leadership positions in nursing service and as faculty members in schools of nursing; these need graduate preparation at the master's or doctoral level.

Data collected in fifteen states (including seven in the West) during the 1962 national inventory of registered nurses indicate that 12 percent of the employed nurses held baccalaureate degrees, an additional 2.5 percent held graduate degrees, and 80 percent were graduates of diploma or associate degree programs.[3]

One estimate made on a national basis of the composition of the 1964 registered nurse work force reported 89 percent with associate degrees or less, 9 percent with baccalaureate degrees, and slightly more than 2 percent with graduate degrees.[4] For the same year one western state reported the following figures: 77 percent with diploma or associate degrees, 19 percent with baccalaureate degrees, and 3 percent with master's or doctoral degrees. In another western state, 79 percent held diploma or associate degrees, 16 percent held baccalaureate degrees, and 1 percent held graduate degrees.

Clearly, the composition of the registered nurse work force in terms of academic preparation has not yet achieved the recommended pattern. If this goal is to be met by 1970, the numbers of nurses with baccalaureate and graduate preparation must be markedly increased. (Table 6)

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[1] *Nurses for a Growing Nation* (New York: National League for Nursing, 1957), p. 10.

[2] *The Nation's Nurses* (New York: The American Nurses' Association, 1965), p. 24.

[3] *Ibid.*, Table 15A, p. 36.

[4] Eugene Levine and Helen H. Hudson, "More Nurses Now Have College Degrees," *Nursing Outlook*, XIII, No. 10 (1965), pp. 31-33.

PART IV

WHO IS PRESENTLY PROVIDING NURSING SERVICES?

IN HOSPITALS IN THE WEST

Source of Data

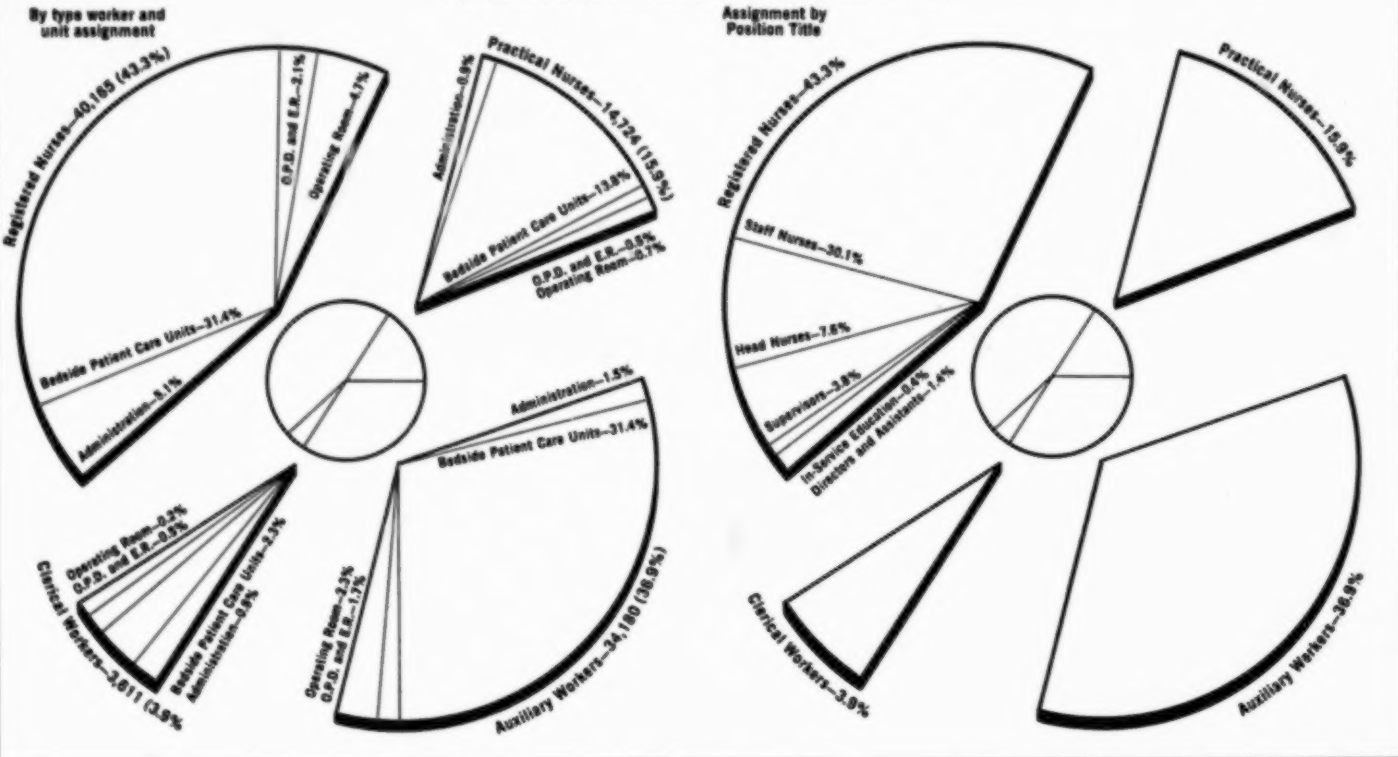
In 1962 a questionnaire relative to staffing of nursing service departments and to professional nurses assigned to other departments was distributed to member hospitals of the American Hospital Association in conjunction with the annual survey conducted by that organization. The data for the thirteen western states tabulated from the 1962 questionnaires were made available for the present study by the Division of Nursing, Bureau of State Services, U.S. Public Health Service. The information reported was relative to the week of March 11-18, 1962.

Examination and comparison of information from the 1962 and 1964 annual surveys of member hospitals of the American Hospital Association[1] did not reveal changes in number and control of hospitals or in utilization patterns of magnitude sufficient to create doubts concerning the current applicability of the 1962 figures relative to staffing of the nursing service departments.

Classification of Hospitals Utilized in This Study

For purposes of simplification, the hospitals in the thirteen western states from whom the nursing service department staffing data were available

Figure 7. Staffing—Nursing Service Departments of 865 general hospitals in the thirteen western states, week of March 11 through March 18, 1962, in full-time equivalents with part-time computed at 50 percent of full-time



were categorized into three main groups, according to the type of service and the identifying code number for each service utilized by the American Hospital Association, as follows:

General—General (10); hospital department of an institution (11); maternity (44); eye, ear, nose, and throat (45); and children's general (50)

Psychiatric—Psychiatric (22); alcoholic and/or addictive (82); institution for the mentally retarded (62)

Chronic and Long-Term—Tuberculosis (33); chronic disease and/or convalescent (48); children's orthopedic (57); adult other specialty (49); and children's other specialty (59)

Number of Hospitals From Whom Data are Included

Data reported in this study were secured from a total of 996 hospitals in the thirteen western states. (Table 7) The American Hospital Association reported a total of 1,205 registered hospitals in these states in 1962.[2] The information concerning staffing of nursing service departments utilized in this study represents approximately 83 percent of the registered hospitals in the West. It should be noted that, since the aim of the registration program is to maintain a roster of hospitals, membership in the American Hospital Association is not a prerequisite for registration of a hospital.[3]

Type of Hospitals

Of the 996 hospitals providing the information utilized in this study, 814 (82 percent) were classified as "short-term general." As classified for the purposes of this report, 865 (87 percent) were General; 67 (7 percent) Psychiatric; and 64 (6 percent) Chronic and Long-Term.

Distribution of Hospitals

Of the western hospitals contributing nursing service department information to the 1962 survey, 424 (43 percent) were located in California. Distribution of the hospitals among the thirteen western states was roughly proportional to the population, with the smallest number 12 (1 percent) located in Nevada.

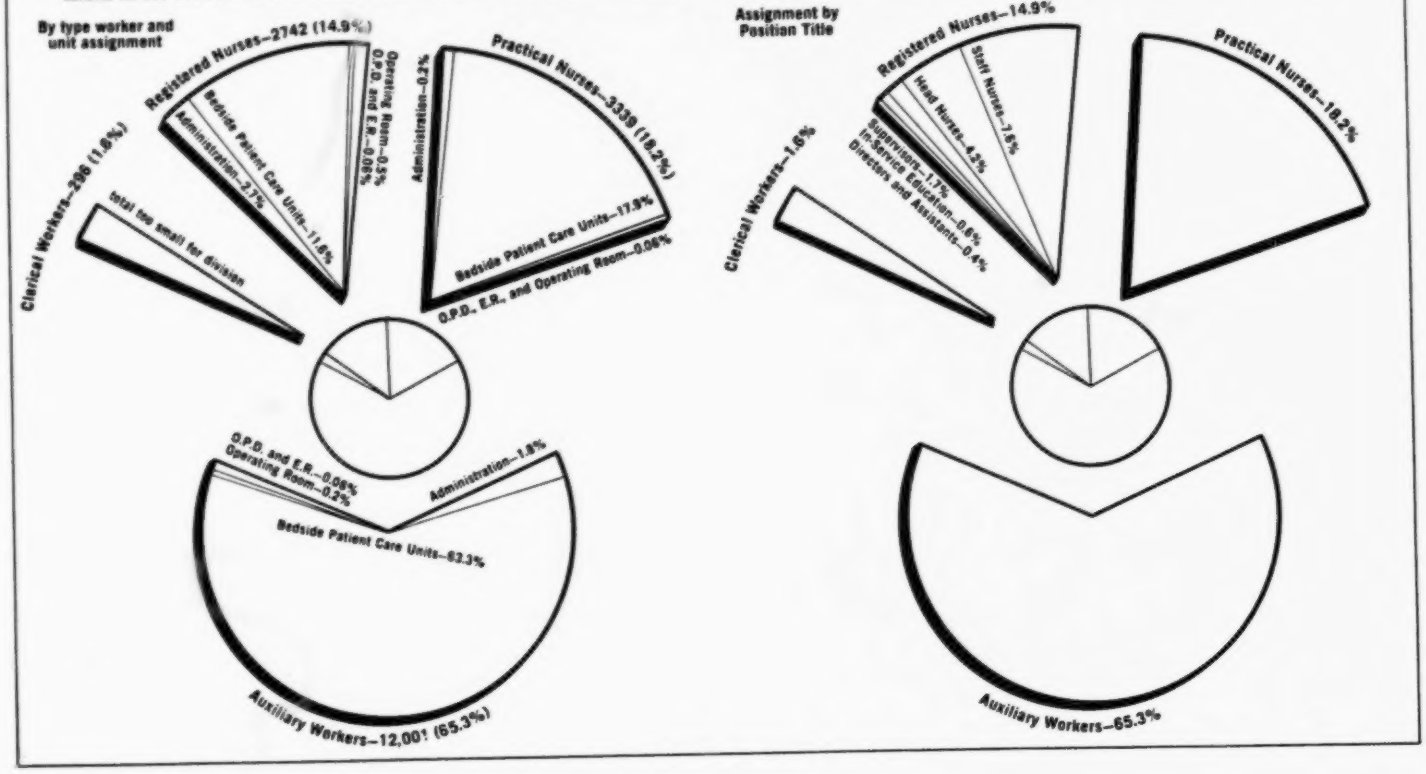
Nursing Service Department Personnel in These Western Hospitals

A total of 124,713 persons were employed by these 996 western hospitals, March 11-18, 1962. This figure is approximately 25 percent larger than the total number of teachers in secondary schools in these thirteen states (100,116) and roughly 16 percent smaller than the total number of teachers (154,869) in elementary schools in the fall of 1962.[4] (Table 8)

Part-time and Full-time Employees

Approximately 13 percent of the nursing service department employees were part-time work-

Figure 8. Staffing—Nursing Service Departments of 56 psychiatric hospitals, 51 hospitals for alcoholic or addictive patients, and 6 hospitals for the mentally retarded in the thirteen western states, week of March 11 through March 18, 1962, in full-time equivalents with part-time computed at 50 percent of full-time



ers. However, 20 percent of the total number of registered nurses were employed on a part-time basis as compared with 8 percent of the auxiliary workers. Eight percent of the practical nurses were part-time employees, as were 15 percent of the clerical workers. There was more extensive utilization of part-time workers in the general hospital group than in the other two categories.

Classification of Employees

Registered nurses as full-time employees comprised 32 percent of the nursing service department staffs in this group of hospitals, with part-time registered nurses making up another 8 percent. Approximately 16 percent of the employees were classified as practical nurses, with the majority employed on a full-time basis. Auxiliary employees numbered 50,918, or 41 percent of the staff, and more than 90 percent of this group were full-time employees. Clerical workers comprised 3 percent of the nursing service department employees, and comparatively few were part-time employees.

Registered Nurses by Position Classification

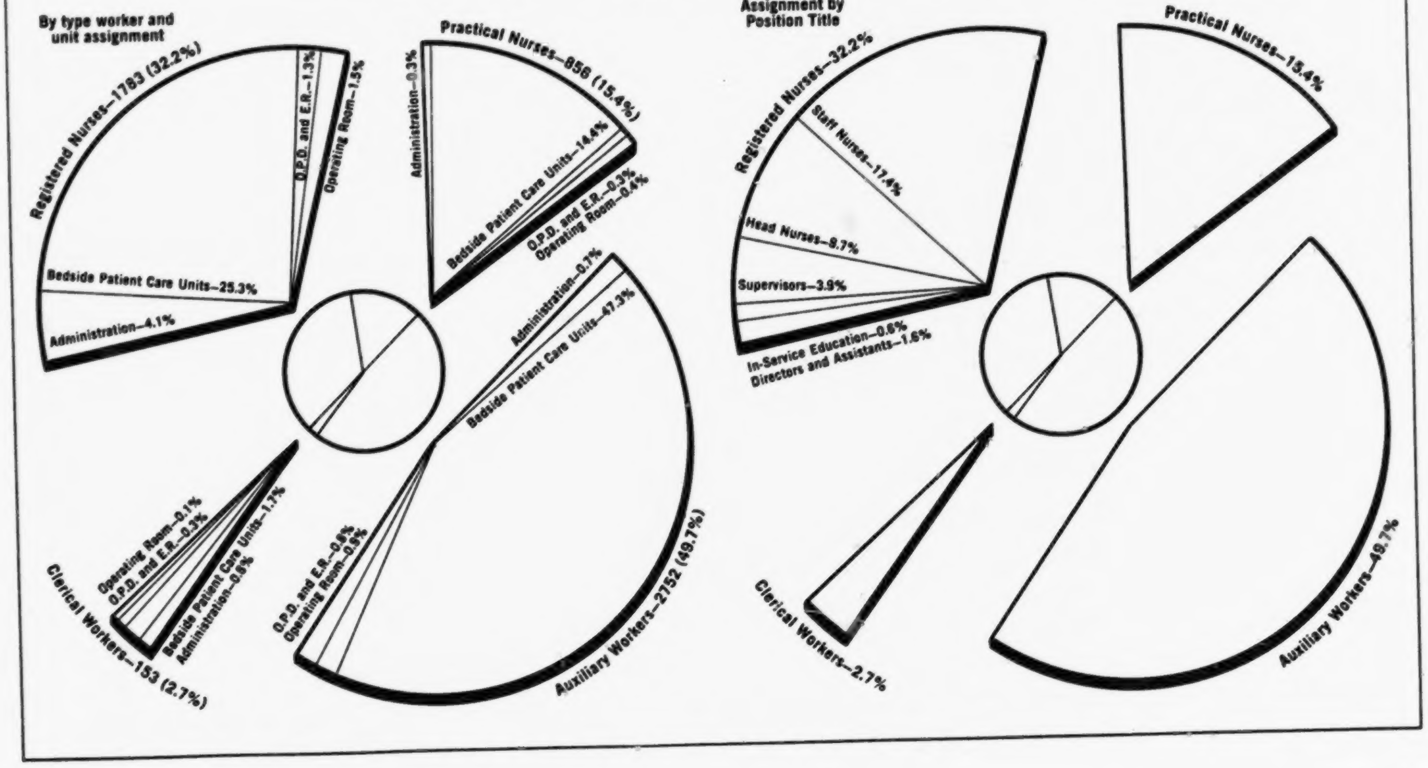
Slightly more than 3 percent of the registered nurse employees were classified as directors or assistants. However, the registered nurses so assigned comprised only a little more than 1 percent of the total nursing service departmental employees.

Although 1 percent of the registered nurses were assigned responsibility for in-service education, the group so assigned comprised less than 0.5 percent of the total employee group. Approximately 9 percent of the registered nurses were classified as supervisors and 17 percent as head nurses, but these groups made up only 3 and 9 percent, respectively, of all employees. Seventy percent of the registered nurses, or 28 percent of the total number of employees, were classified as staff nurses. (Table 9)

Registered Nurses by Unit Responsibility

When the assignments of the total registered nurse group, both full-time and part-time, were examined, it was found that approximately 12 percent were in administration, 74 percent in bedside patient care units, 5 percent in the out-patient and emergency departments, and 10 percent in the operating room. When the unit assignments of the total of the remaining three groups of employees (practical nurses, auxiliary workers, and clerical workers) were computed, it was found that 5 percent were assigned to administration, 87 percent to bedside patient care units, 4 percent to out-patient and emergency room, and 4 percent to the operating room. Apparently, non-registered nurse employees were utilized almost entirely on patient care units. (Table 10)

Figure 9. Staffing—Nursing Service Departments of 64 chronic and long-term hospitals in the thirteen western states, week of March 11 through March 18, 1962, in full-time equivalents with part-time computed at 50 percent of full-time



Comparison of the Three Classifications of Hospitals

The percentage of the total number of nursing service department employees who were registered nurses was found to be highest (45 percent) in the General hospital group, next highest (33 percent) in the Chronic and Long-Term classification, and lowest (15 percent) in the Psychiatric group of hospitals.

In the three classifications of hospitals, the proportion of the nursing service department staffs made up of practical nurses varied but little —from 15 to 18 percent of the total staff.

However, 65 percent of the staff in the Psychiatric hospitals was made up of auxiliary workers, as compared with 49 percent in the Chronic and Long-Term institutions, and 34 percent in the General hospitals.

Clerical workers made up 4 percent of the staff in General hospitals, 3 percent in the Chronic and Long-Term, and less than 2 percent in Psychiatric hospitals.

Registered Nurses in Other Hospital Departments

Responding hospitals indicated that 3,455 registered nurses were employed on a full-time basis in departments other than nursing service, and that an additional 551 were so employed on a part-time basis. This number of full-time employees was equal to 9 percent of the full-time registered nurses on the nursing service department staff. The number employed in these departments on a part-time basis was equal to 6 percent of the registered nurses employed part-time by the nursing service department. (Table 11)

The largest single group, 944 full-time and 202 part-time employees, were in a classification entitled "All Others (Laboratory, Admitting, X-ray, etc.)."[5] Registered nurses as anesthetists numbered 814 full-time and 119 part-time employees; as instructors, 677 were employed full-time and 48 on a part-time basis. Central Service Departments reported 626 full-time registered nurse employees and 165 part-time. Nurses employed as hospital administrators or superintendents included 394 on a full-time basis and 17 on a part-time basis.

Whether these registered nurses employed in hospitals, but not in nursing service departments, could have been better utilized in other types of assignments is problematical. It is possible that the majority of those classified as instructors were teaching in diploma nursing programs under hospital auspices. Some questions could be raised concerning utilization of registered nurses in laboratories, admitting offices, and similar types of assignment. However, when no information is available concerning the individuals, no valid deductions can be drawn.

Summary

Information from this hospital survey raises serious questions concerning the quality of patient care provided by nursing department staffs composed to such a large degree of auxiliary workers, and with 20 percent of the registered nurses working only part time.

The staffing patterns for nursing departments that would have been considered desirable by these hospitals is not known, although it is probable that most hospitals assigned responsibility for the existent pattern to a lack of registered nurses in their communities. However, the 1962 inventory revealed that throughout the nation one-third of the registered nurses were not actively employed—and the thirteen western states did not deviate from this national picture. Information from this same inventory indicates that 61 percent of the employed and 85 percent of the inactive registered nurses are married. Current social trends are such that we cannot anticipate, in the foreseeable future, any diminution in the percentage of all registered nurses who are married. It logically follows, then, that hospitals must make employment more attractive to the married nurse if needs are to be better met in the future than at present—or if the present quality of care is to be maintained.

A recent study of employed wives revealed that the wife's net income, after subtracting job-related and extra expenses, amounted to three-fifths of the gross earnings if there were no pre-school children in the family—and one-half of the gross earnings when care was needed for small children.[6] Only 50 to 60 percent of these employed wives reported expenditures for household help or child care services—in other words, 40 to 50 percent were carrying full homemaker responsibilities as well as those of a salaried job.[7] A staff nurse position at $400 per month is not particularly attractive when the net income realized is only $200 to $240 per month—and when homemaking and nursing careers combined make such heavy physical and emotional demands upon the individual.

The married nurse who works only part time can better cope with the responsibilities of both her home and her job, and through the extensive use of part-time nurse employees hospitals have avoided the basic economic problem..[8] However, high ratios of part-time workers to full-time employees, through the resultant frequent changeover of duty personnel, exert a deleterious effect on the quality of nursing provided patients.

Clearly, hospitals must increase the salaries paid to nurses if the quality of nursing care provided is to be either maintained or improved. Traditionally, many ongoing tasks in hospitals have been performed by the nursing department, even though performance did not require nursing knowledge or skill. As a result, apparent expenditure for nursing services is often much higher than the actual costs of the nursing provided. If the tasks presently being performed by nursing service personnel were identified through utilization studies and those functions not properly within the scope of nursing reassigned, the number of auxiliary workers in the nursing department could possibly be reduced—and the amount of registered nurse time expended in the supervision of auxiliary employees more fruitfully applied toward meeting the nursing needs of patients. Although an increase in the salaries paid to registered nurses would undoubtedly affect the total hospital budget, more effective utilization of personnel would surely serve to offset some of the additional expenditure for registered nurse salaries. Even if a re-delegation of functions among hospital departments did not exert a favorable effect on the hospital budget, it would provide a more accurate picture of the points of expenditure than is possible when costs properly chargeable to other departments are hidden within nursing department expenditures.

Hospitals interested in taking steps toward better utilization of the unique knowledges and skills of registered nurses should realize that efforts in this direction require accompanying retraining of staff if they are to be successful. The number of persons presently assigned to in-service education, as indicated by the results of the survey, appears inadequate for satisfactory performance of this essential function. If the tasks presently being performed by nursing personnel were identified through utilization studies, and those functions not properly within the scope of nursing reassigned, it seems possible that the salaries of registered nurses could be increased without marked effect on the nursing service department budget. Surely some of the large numbers of auxiliary workers on the nursing service department staffs must have been performing duties outside the proper scope of nursing and were not contributing toward meeting the actual nursing needs of patients.

IN PUBLIC HEALTH AGENCIES OF THE WEST

Nursing personnel function in a variety of settings—in the hospital, the nursing home, the clinic; within business and industry; in schools and other educational institutions; and in the homes of those needing nursing services.

Other sections of this report provide information concerning the total nurse supply, the nurses working in hospitals, and those teaching in nursing education programs. Under the heading "Public Health Nursing Personnel" data are provided concerning those nurses employed by public health agencies (state or local; official, non-official, or combined), in hospital-based home-care programs, and by boards of education. Data are not included concerning nurses working in business and industry, nurses teaching public health nursing in institutions of higher education or students in such programs, nurses in federal agencies or national organizations, or nurses on educational leave on January 1, 1964.

This information concerning nursing personnel in public health has been extracted from *Nurses in Public Health*.[9] Data for that publication are secured from reports of the directors of public health nursing in the state health departments.

Trends in Public Health Nurse-Population Ratios

A rough standard of one public health nurse for each 5,000 of population has been accepted in the past[10] with a somewhat smaller population figure per nurse in areas where home care was being provided.

Current thinking is that the ratios of public health nurses to population utilized for planning and evaluation in the past are no longer adequate, and other methods should be devised.

Ratios are, however, the only presently available tool for meaningful examination of trends in public health nursing resources.

In 1960, 5,553 public health nurses were employed in the West on a full-time basis—or one nurse for each 5,052 persons. The national figures for that year were 30,953 nurses—or one for each 5,793 persons. (Table 12)

During the period between January 1, 1960 and January 1, 1964, the number of full-time employed public health nurses increased in the West by 13.3 percent and nationally by 11.9 percent. However, the estimated population increase during those years was approximately twice as great in the West as in the nation as a whole. As a result, the population per nurse in the West was reduced by less than 1 percent (0.6) during that period, while nationally this figure dropped by 4.7 percent.

Academic Preparation of Public Health Nurses

A registered nurse is designated a "public health nurse" only if she has either completed an approved program or has had at least 30 semester hours of college credit obtained in or accepted by an approved program.[11] Such nurses may or may not have earned an academic degree at the baccalaureate or a higher level. Those who hold degrees may have had their basic preparation for nursing in a collegiate program or may have had initial preparation in a diploma or associate degree program and later earned the baccalaureate degree.

In 1964, 1,023 of the public health nurses employed full-time in the West—or 16.3 percent of the total—were graduates of collegiate basic programs. The comparable national figure was 9.6 percent.

For examination of the proportion of full-time public health nurses who held academic degrees, the employing agencies were re-grouped into three categories—state, local other than Boards of Education, and Boards of Education. Both regionally and nationally, the highest percentage with academic degrees was found in the public health nurses employed by states; and in all three categories, percentages of these nurses who held academic degrees was higher regionally than nationally. The least well-prepared group of nurses, in terms of academic degrees, was that employed by Boards of Education. (Table 13)

Use of Supplementary Nursing Personnel

Registered nurses and licensed practical nurses employed to supplement the work of public health nurses are classified as "supplementary" by the U.S. Public Health Service.

The figures reported in January 1964 indicate that relatively small numbers of such personnel were being utilized by public health agencies —in either the nation or the region. Only in the part-time employee group, on a national basis, did registered nurse supplemental employees form a significant percentage. Although the percentages are too small for accurate interpretation, there is some indication that supplementary personnel were being utilized to a greater extent in the nation than in the region. (Table 14)

The contrast between the composition of the nursing staff of public health agencies and that of hospitals is striking. It is possible that, were figures available on the number of home-care aides employed by public health agencies, the differences in terms of the percent of staff comprised of registered nurses would be less noticeable.

Use of Part-time Nursing Personnel

An overwhelming majority of the nursing personnel employed by public health agencies work full time. Although the differences may not be sufficiently large to be significant, there is again, some indication that part-time personnel are utilized to a greater extent in the nation as a whole than in the region.

Summary

In terms of population per public health nurse, it would appear that the West is not running fast enough to quite keep up. While the population per nurse was somewhat lower in 1964 than in 1960, the difference is not great enough to be certain that it is not entirely a product of having only population estimates for 1964. It would seem, however, that the reduction on a national basis is large enough to assume that it has been actual although the degree may not be exact.

The western nurses are better prepared, in terms of academic degrees—although the level of academic preparation of "School Nurses" leaves much to be desired.

The number of nurses in public health in proportion to population, and their level of academic preparation, merit examination in light of impending social changes and recently enacted legislation. How will this legislation be translated into care that is actual when the number of nurses employed by public health agencies is barely adequate to meet the traditional assignments of public health nurses? The answers seem to rest with those who must provide the financial support essential for the preparation of additional numbers of public health nurses, and with those who must make careers in nursing sufficiently attractive to bring more people into the profession.

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[1] *Hospitals*, XXXVII, No. 15, Part II (1963), and XXXIX, No. 15, Part II (1965).

[2] *Ibid.*, XXXVII, 468-472.

[3] *Ibid.*, 21.

[4] Number of teachers computed from: *Statistical Abstracts of the United States: 1963* 84th ed.: (Washington, D.C.: U. S. Bureau of the Census, 1963), Table 164, p. 127.

[5] As categorized on the questionnaire form: "Survey of Department of Nursing Service Personnel and Professional Nurses Employed in Other Departments of the Hospital, 1962."

[6] *Job-Related Expenditures and Management Practices of Gainfully Employed Wives in Ohio,* Home Economics Research Report No. 27. (Washington, D. C.: U. S. Department of Agriculture, 1965), p. 1.

[7] *Ibid.*, p. 18.

[8] Bonnie Bullogh and Vern Bullogh, *The Emergence of Modern Nursing* (New York: The Macmillan Co., 1964), p. 205.

[9] *Nurses in Public Health,* Public Health Service Publication No. 785 (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Public Health Service, Division of Nursing, 1964).

[10] Roland L. Warren, *Studying Your Community* (New York: The Russell Sage Foundation, 1955), p. 212.

[11] *Nurses in Public Health,* p. 2.

PART V

BEGINNING SALARIES OFFERED TO NEW GRADUATES OF NURSING EDUCATION PROGRAMS IN THE WESTERN STATES

Information concerning salaries currently being offered new graduates of baccalaureate, associate degree, diploma, and practical nursing programs in the West was secured from the nurses' associations of the individual states. Data concerning minimum salary scales recommended by the associations and differentials in currently offered salaries by type of basic preparation were included.

Only five of the respondents reported awareness of any hospitals in their state paying higher beginning salaries to new graduates from baccalaureate programs than to those completing associate degree and diploma programs—and some of these responses were qualified with a comment indicating this to be the unusual rather than the general situation. (Table 15)

In most states, the professional association had established recommended salary scales. Only one state reported beginning salaries offered in line with those recommended. (Table 16)

Each respondent indicated the range of currently offered salaries. The minimum salaries ranged between $290 and $476; the maximums from $345 to $545. The estimated average range in beginning salaries among these states, by type program completed by the new graduate, was as follows:

Baccalaureate —$355-$414
Associate Degree—$351-$406
Diploma —$353-$406
Practical Nursing—$262-$288 (information from only five states)

The new graduate from a practical nursing school was, on an average in the states reporting salaries for that group, being offered a beginning salary equalling 70 to 73 percent of that offered to graduates of baccalaureate programs. Since only one year is required for completion of a practical nursing program, and at least four in the baccalaureate, it is little wonder that practical nursing is the choice of such a large proportion of students currently enrolling in nursing education programs.

Baccalaureate program graduates were seldom offered salaries above those paid associate degree and/or diploma graduates—with the few reported differences at a minimal level. Little financial incentive was offered the qualified potential student to select the baccalaureate nursing program. Still, graduations from those programs must be stepped up if the supply of professionally prepared nurses is to be adequate to meet needs.

Salaries offered new graduates of baccalaureate nursing programs also did not compare favorably with those paid persons earning baccalaureate degrees in other fields. In only two of the responding western states was the *highest* salary offered a new graduate of a baccalaureate nursing program equal to the *lowest* salaries reported in the following tabulation.

> Starting salaries for bachelor's degree candidates: a sampling
>
> The figures shown below represent the average monthly salary offers, made as of February 1965, by employers to men students of 16 fields who are graduating this June. Data for the sampling were collected from 111 participating colleges and universities by the College Placement Council, of Bethlehem, Pennsylvania.

Chemical engineering	$639
Electrical engineering	637
Aeronautical engineering	632
Mechanical engineering	629
Metallurgical engineering	622
Industrial engineering	618
Civil engineering	613
Physics, chemistry, mathematics	600
Accounting	550
Business—general, management	530
Marketing and distribution	506
Humanities, social sciences	498

The College Placement Council has estimated the average dollar value of offers to technical students as having risen from $527 in 1960 to the current rate of $630 per month; for non-technical students the average offer has gone from $442 to $531.

While less remunerative than those for technical students, the council notes that salary offers to non-technical students have been improving, particularly in the last year. Since the close of the 1963-64 recruiting period, beginning salary offers to technical students rose 2.6 percent, while those to non-technical students rose 3.9 percent.[1]

Without alteration of the salary position in comparison with that of other fields, nursing cannot hope to attract a fraction of those making career choices of sufficient size to meet future needs. Unless differences in the level of educational preparation are recognized through the salaries offered, nursing will have too many people prepared at the vocational and technical levels in proportion to the number with professional preparation.

Clearly, this is a matter of great import to which the attention of the western states should be directed and on which action should be taken. The public is growing increasingly aware of the effect of inadequate salaries on the quality of care, as can be noted in the following quotation from a letter published recently in a regional newspaper:

> The problem, clearly, is vastly inadequate pay scales for some of society's most worthy members. Until the public is prepared to acknowledge tangibly the contributions of hospital staffs, the public must suffer the inevitable less-than-best care which follows on the heels of men and women who care 100 percent but who have 100 percent too many to care for.[2]

The writer had recently been hospitalized.

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[1] Frederick T. Sparrow, "Future Income as a Factor in Student Aid," *College Review*, LVI (Spring 1965), p. 35.
[2] The Rev. Richard Kerr as published in a reader's editorial in *The Denver Post*, Dec. 4, 1965, p. 10.

PART VI

NURSING EDUCATION IN THE WEST

If the future nursing needs of the West are to be adequately met, planning must be initiated for the educational preparation of larger numbers of nurses. It appears most unrealistic for the West to depend upon continued ability to attract nurses from other parts of the nation to meet its needs.

Meeting of the region's future need for nursing services cannot, however, be insured by simply adding to the total number of persons graduated from its nursing programs. Adequate numbers of new nurses must be well-prepared to assume varying degrees of responsibility—and production of more new nurses than are needed for one type of practice will not compensate for under-production of practitioners for another type.

Types of Educational Programs in Nursing

PRE-SERVICE PROGRAMS. Until twenty-five or thirty years ago, there was essentially only one route through which basic preparation for a career in nursing could be secured—the three-year diploma program operated by hospitals. Some universities, usually those which operated a hospital in connection with a school of medicine, offered nursing programs leading to a baccalaureate degree, but such programs were comparatively few in number. Although a few practical nursing programs opened in the early 1900's, it was not until the 1940's that a significant number of such programs were in operation.

From the one-type program of a quarter-century ago have evolved several routes through which pre-service educational preparation in nursing may be secured. Each program category currently available has its own unique goals and prepares its graduates for practice of a specified type.

The four types of pre-service educational programs presently available in the West are as follows:

PRACTICAL NURSING—graduates are eligible for admission to examination for licensure as practical nurses and prepared to share in the giving of direct care to patients under the supervision of a registered nurse or physician. These programs are approximately one year in length. Although such programs may be organized and controlled by hospitals or other community agencies, the majority of those in the West are within the vocational education framework. These programs are terminal in nature.

DIPLOMA SCHOOLS—graduates are eligible for admission to examination for licensure as registered nurses and are prepared for beginning positions in hospitals, physicians' offices, and similar situations. These programs vary in length from three academic to three calendar years and are under the control of hospitals or some other non-collegiate authority. Although some credit transferrable to a college or university may be earned, these programs are terminal in design.

ASSOCIATE DEGREE PROGRAMS—graduates are eligible for admission to examination for licensure as registered nurses and are prepared for beginning positions in hospitals, physicians' offices, and similar situations. The nursing program is an integral part of the college,* and its students enjoy the same responsibilities and privileges as those students in other programs of the college. Designed for completion within a two-year period, these programs are also terminal in nature and are not the first two years of a baccalaureate program, although some credit applicable to a baccalaureate degree in nursing may be earned.

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*Some associate degree programs in nursing are offered by four-year colleges or universities, but the majority are located within a junior, or two-year college.

Baccalaureate Degree Programs—graduates are eligible for admission to examination for licensure as registered nurses and are prepared for beginning positions in hospitals and community agencies. With experience, graduates of these programs are prepared to assume responsibilities requiring independent action and/or the direction of associated nursing personnel. Four to five academic years are required for completion of the requirements of the college or university for a baccalaureate degree in nursing.

In addition to basic students without previous preparation in nursing, most baccalaureate degree programs admit registered nurses who are graduates of diploma or associate degree programs. Decisions as to the granting of credit toward the baccalaureate degree for content in the diploma or associate degree programs are made by the school on an individual student basis. The total length of time required to qualify for a baccalaureate degree in nursing is longer for the student who spends two or three years in a diploma or associate degree program before enrolling in the baccalaureate program than for those who select the baccalaureate program initially.

Availability of these four types of programs through which to secure basic educational preparation for nursing makes it possible for potential students with varying degrees of ability and differing occupational goals to prepare for careers in nursing. Since the potential student will serve society better and will derive more personal satisfaction if she initially enrolls in the type of program best suited to her abilities and expectations, career counselors should be well-informed concerning the various programs in nursing education.

Graduate Programs —Academic preparation in nursing in graduate programs is needed by nurses who serve as faculty members in schools of nursing and as supervisors or administrators in hospitals and health agencies. Emphasis at the master's level is on clinical nursing and the physical and behavorial sciences supportive to nursing, with an introduction to a functional role —such as teaching, supervision, or administration. Academic preparation at the doctoral level is recommended for nurses who serve as faculty in master's programs or as administrators of schools of nursing, health centers and agencies, or who occupy key leadership positions of other types.

Legal Control of Nursing Education

Each state, for the protection of its citizens, has enacted legislation controlling the practice of nursing within its boundaries. Responsibility for control rests with a board of nursing, as established by law.

In order for its graduates to be qualified for licensure within the state, each school of nursing must meet certain criteria. Schools which meet these requirements are approved by the state.

Accreditation by the Nursing Profession

In addition to the state approval described above, nursing has made provision for professional accreditation on a national basis for schools making application for review and meeting the established standards. The National League for Nursing has been designated as the accrediting body for nursing schools.

Planning for the Future

Sound plans for nursing education in the West during the coming years require comprehensive information concerning the present situation.

In order to secure the information deemed essential, a mailed questionnaire survey of all nursing schools in the West was made early in 1965. The schools were most cooperative and supplied a wealth of data. It is hoped that those responsible for planning for the future will find helpful the report of the survey.

THE SCHOOL SURVEY

Number of Participating Schools

Questionnaires were mailed to all schools offering educational programs in nursing as listed by either the National League for Nursing in its 1964 publications or by the state boards of nursing in the thirteen western states. A total of 287 forms were mailed—152 to practical nursing programs, 55 to diploma schools of nursing, 44 to schools granting the associate degree in nursing, 27 to colleges or universities with baccalaureate nursing programs, 8 to universities offering both baccalaureate and master's programs, and 1 to a university offering a master's program in a specialty area but not the baccalaureate program in nursing.

Usable responses were received from 84 percent of the practical nursing programs on the mailing list and from 95 percent of the diploma programs. There is some evidence that six of the non-responding practical nursing programs and one of the non-responding diploma programs were not in operation at the time of the survey. The responses of four practical nursing programs were received too late for tabulation. It is probable that the total responses (both usable and non-usable) represented 91 percent of the state-approved practical programs and 96 percent of the state-approved diploma schools. (Table 17)

Forty-three of the 44 associate degree programs (98 percent) and all of the baccalaureate and master's programs returned completed forms.

Trends in Number and Type of Program - 1959 and 1965

Nurses for the West listed the state-approved schools of nursing, by type of program offered, in the thirteen western states. In that publication, schools of practical nursing were not included.

The number of schools, by type, listed in 1959 compares with those included in the mailing for the present survey as follows:

Type of Program	Number	
	1959	1965
Diploma	56	55*
Associate Degree (Junior College)	19	44
Baccalaureate	34	35
Total	109	134*

*Seven of the responding diploma schools indicated that no students were admitted during 1964, and one of the non-responding schools is listed by the National League for Nursing as "Closing." This leaves a total of 47 diploma schools and a grand total of 126 schools that admitted students during 1964.

The number of diploma schools admitting students in 1964 was nine less than the number in operation in 1959. Associate degree programs had more than doubled in number between 1959 and 1964, and baccalaureate programs had increased by one. The schools offering master's programs remained as listed in the 1959 publication, with the addition of the program in public health nursing at the University of California, Berkeley.

Actual change between 1959 and 1965 in the number of programs preparing students for admission to the licensure examination for registered nurses is estimated to be a 14.3 percent reduction in the number of diploma schools, a 132.6 percent increase in the number of associate degree programs, and a 2.9 percent increase in the number of baccalaureate programs.

Of the 129 responding practical nursing programs, six indicated that no students were admitted in 1964. In addition, six questionnaires were returned by the post office as undeliverable, possibly indicating that those schools were not in operation in 1964. This would leave an estimated 140 active practical nursing programs. No figures are available relative to the number of practical nursing programs in operation in 1959 on which to base a comparison with 1964 figures.

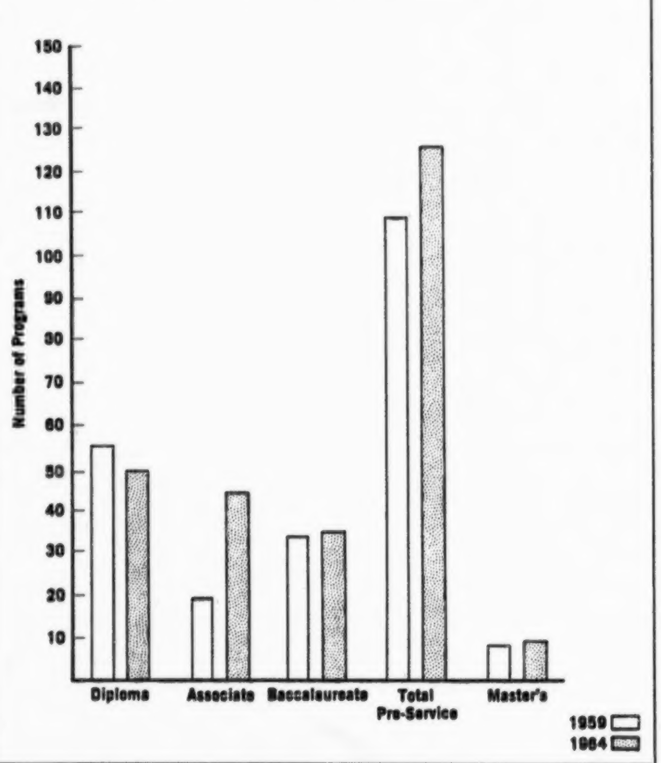
Period of Time Since Initial Admittance of Students to Responding Schools

All but one of the diploma nursing programs, three-fourths of the baccalaureate programs, and one-half of the practical nursing programs had admitted their first students ten or more years ago. Only a little more than one-tenth of the associate degree programs had been in operation for that long a period of time, and one-fourth had enrolled their first students less than two years ago. (Table 18)

Period of Time Since Admittance of First Students to Program as Presently Constituted

Indication was seen of program revision in existing schools. It appeared that programs in diploma schools were being revised to a greater extent than the programs in other schools; 98

Figure 10. Nursing Programs in The West—1959 and 1964



percent of the diploma schools reported that students were first admitted to the schools ten or more years ago, while only 38 percent reported that students were first admitted to the program as presently constituted ten or more years ago.

Program revision less than five years ago was indicated by about 25 percent of the baccalaureate and practical nursing programs and by approximately five percent of the associate degree programs. (Table 19)

ADMISSIONS, GRADUATIONS, AND PRESENT ENROLLMENT PRE-SERVICE STUDENTS

During the six years, 1959-1964 inclusive, almost 56,000 students enrolled in pre-service nursing educational programs in the thirteen western states. Approximately 60 percent of these students enrolled in programs leading to licensure as registered nurses, and 40 percent elected the practical nursing program.

Students Preparing for Registered Nurse Licensure

ADMISSIONS. A gradual, but consistent, increase was noted in the total number of students admitted annually to programs preparing their students for licensure as registered nurses. The 6,916 admitted in 1964 exceeded the 4,364 admitted in 1959 by approximately 50 percent.

However, this change in annual admissions to pre-service programs varied with the type of program. The annual diploma school admissions remained relatively constant, associate degree programs admitted three times as many students in 1964 as in 1959, and the baccalaureate programs admitted 50 percent more in 1964 than in 1959. (Table 20)

GRADUATIONS. Nearly 16,000 students were graduated from these programs during the six-year period. Division by type of program was as follows: 50 percent from diploma programs, 20 percent from associate degree programs, and 30 percent from baccalaureate programs.

The total number of graduates in 1964 exceeded the 1959 figure by approximately one-third. Trends by program were essentially the same as those noted in the admissions figures. The annual number of graduates from diploma programs remained relatively constant, those from associate degree programs more than tripled, and those from baccalaureate programs increased by about 20 percent. (Table 21)

PRESENT ENROLLMENT. The number of students enrolled in these programs in January 1965 approached 15,000. The baccalaureate programs

Figure 11. Trends in Admissions to Educational Programs in Nursing in The West 1959 - 1964

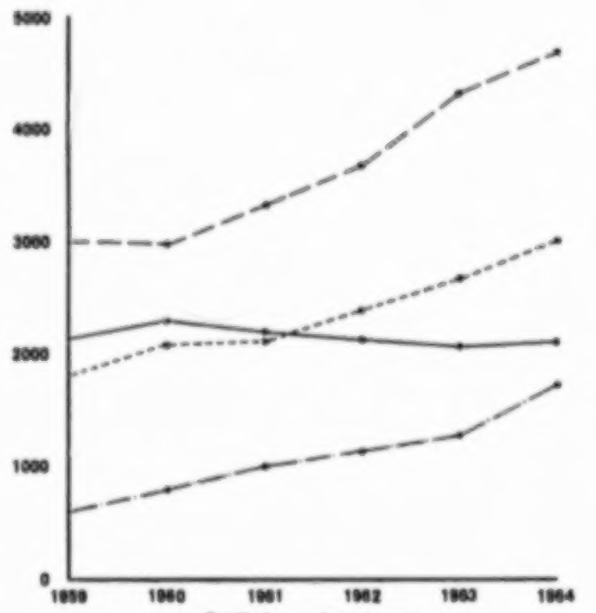
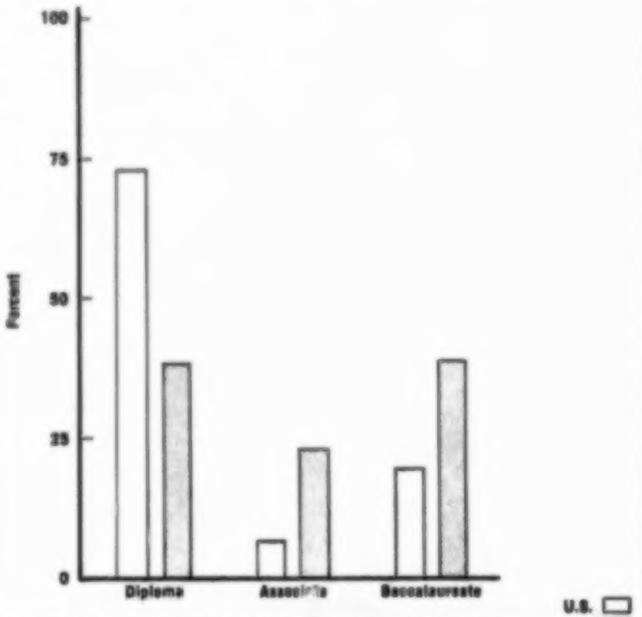


Figure 12. Percent of Students By Type Of Program Admitted 1962-63 To Programs Leading To Licensure As Registered Nurses, The West and The U. S.



Source: ANA *Facts About Nursing*, (New York; ANA 1965), Table 6, p. 85

Figure 13. Trends in Graduations From Nursing Programs in The West 1959 - 1964

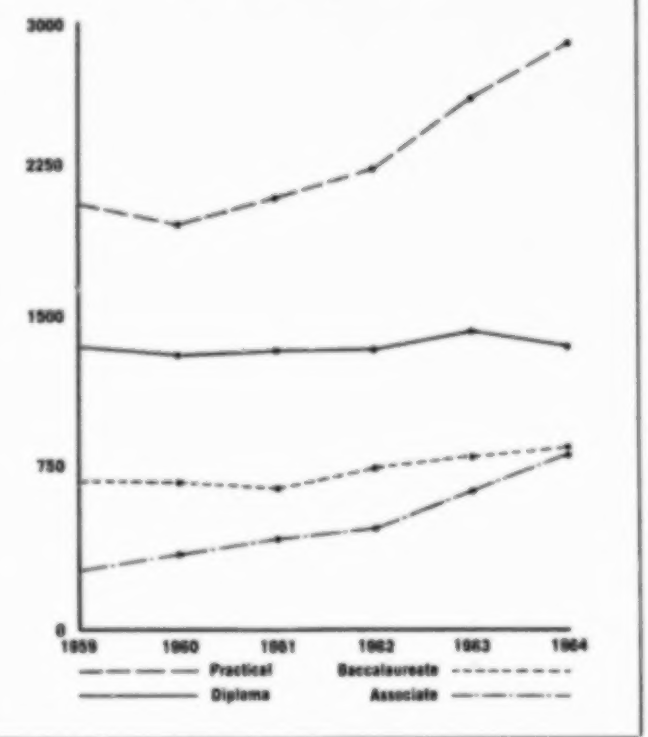
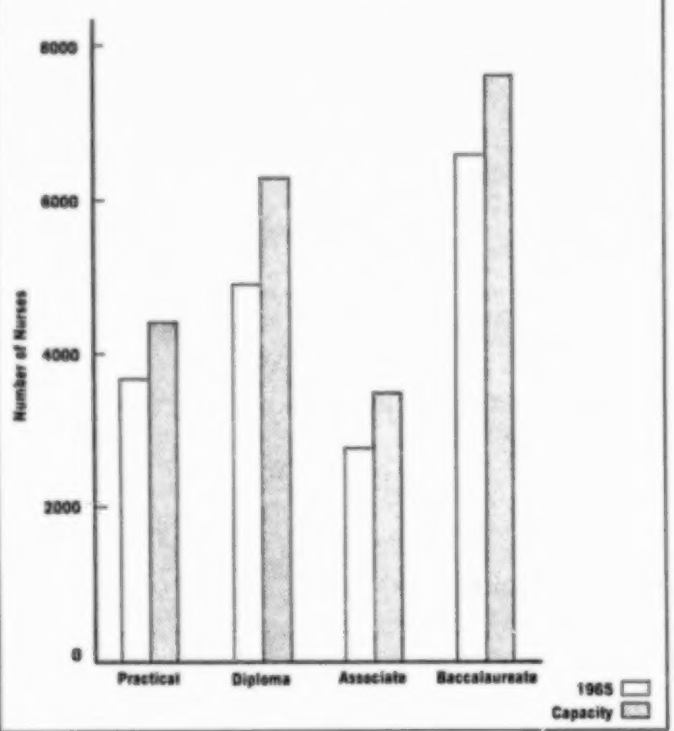


Figure 14. 1965 Enrollment, Nursing Program of The West Compared With Enrollment Capacity



reported 46 percent of the total; diploma programs, 34 percent; and the associate degree, 20 percent. It should be noted that in some baccalaureate programs students are not enrolled in the school of nursing until the sophomore or junior year. Thus, the baccalaureate enrollment figure does not reflect the total number of first- and second-year students who plan to earn a baccalaureate degree in nursing. (Table 22)

MAXIMUM ENROLLMENT POTENTIAL. Where possible, the responding schools indicated the maximum number of students that could be enrolled with the resources currently available to the nursing program.

These reports indicate that between 20 and 25 percent more students could have been enrolled in these programs. The diploma and the associate degree programs could increase their enrollment figures by approximately 28 percent, and the baccalaureate by roughly 16 percent. (Table 23)

At best, estimates of maximum enrollment are educated guesses. It may be possible for a school to increase the number of freshmen enrolled, but facilities are not available to provide educational experiences for added numbers of seniors. School of nursing enrollment may be limited by student spaces available in supporting courses. However, the estimates here reported were made by knowledgeable persons—the deans and directors of the nursing schools—and are, no doubt, as accurate as it is possible to make. It would seem that these estimates warrant consideration in future planning for nursing education in the West.

Students in Practical Nursing Programs

ADMISSIONS. Nearly 22,000 students were admitted to the responding programs during the six-year period, 1959-1964. The annual level of admissions shows consistent increase during these years. The number of admissions in 1964 exceeded the 1959 admissions figure by approximately 50 percent. During these six years, the admissions to practical nursing programs accounted for approximately 40 percent of the total admissions to pre-service programs—or roughly two-thirds as many students were admitted to practical nursing programs as to all the programs leading to licensure as registered nurses.

GRADUATIONS. Over 13,000 students graduated from practical nursing programs in the West, 1959-1964. The annual number of graduates shows gradual increase, so that the number graduated in 1964 exceeds the 1959 figure by slightly more than 33 percent.

PRESENT ENROLLMENT. The 3,623 students enrolled in practical nursing programs in January 1965 comprised 20 percent of all the students enrolled in pre-service nursing programs. Since the time span of the practical nursing program is appreciably shorter than that of the programs leading to licensure as registered nurses, these enrollment figures require careful interpretation. The number enrolled in practical programs in 1965 was about 25 percent as large as the number enrolled in all programs, and exceeded by 900 students the number enrolled in associate degree programs.

MAXIMUM ENROLLMENT POTENTIAL. Responding practical nursing programs indicated that about 20 percent more students could be accommodated with the resources presently available to them. Reported maximum enrollments totalled 4,407.

Characteristics of Students Enrolled in Practical Nursing Programs

Wise utilization of human resources is very important to meeting the nursing needs of the people of the West. For this reason, a question was addressed to the schools of practical nursing relative to the number of students who were between 17 and 21 years of age, and the number of that group who were high-school graduates.

Out of a total enrollment of 3,623 students, those between 17 and 21 numbered 2,415, or 67 percent. Those in that age group who were also high-school graduates numbered 1,394, or 39 percent of the total enrollment.

These figures indicate that some of the students enrolling in practical nursing programs must have been qualified for enrollment in programs leading to licensure as registered nurses. Since students in the younger age group have many working years ahead of them, it would seem quite important that they be recruited into the type of program that would enable them to make their maximum contribution toward meeting the nursing needs of the West.

The Right Program for Each Student

The availability of financial support for practical nursing education has made the initiation of such programs attractive to communities; the pay scale of practical nurses at approximately 70 percent of the registered nurse salary at the staff nurse level, after only one year of preparation, has made the programs attractive to potential students of nursing. Practical nurses are needed as replacements for a considerable proportion of the auxiliary personnel now providing direct care to patients. However, the need for additional numbers of registered nurses is critical, and every effort should be made to attract those young men and women whose abilities and career expectations are commensurate with a career as a registered nurse into programs providing that type of preparation. To the extent that practical nursing programs attract students who should enroll in programs preparing students for licensure as registered nurses, the increased enrollment in practical nursing programs may represent an unwise expenditure of both financial and human resources.

It is equally wasteful to enroll the potential student with the abilities and career expectations in line with baccalaureate-level preparation in either of the other types of programs leading to registered nurse licensure, or to enroll a potential student in a program that will make demands beyond the individual's ability level.

Clearly, much thoughtful effort in this area needs to be expended by communities, states, regions, and the nation.

FACTORS INHIBITING TO ACHIEVEMENT OF MAXIMUM ENROLLMENT IN PRE-SERVICE PROGRAMS

Responding schools were asked to list, if the maximum enrollment figure had not been attained, the factors considered inhibitory to the achievement of that figure. This was an open-ended question, tabulated according to the best judgment of the staff. Many schools not indicating enrollment to be at maximum listed no inhibitory factors, and others listed several. (Table 24)

The most frequently mentioned factor was a lack of qualified applicants for admission to the school. This lack of applicants was mentioned by approximately 33 percent of the responding schools. The second most frequently mentioned item is probably related to the first—unpredictable student attrition rate. Slightly more than 20 percent of the respondents mentioned this as inhibitory to maximum enrollment. It would seem that a lack of qualified applicants might occasion the acceptance of marginal students who do not complete the program. The lack of qualified applicants and unpredictable student attrition were mentioned by approximately the same percentage of the responding schools, regardless of the type of program.

Lack of qualified faculty and limited clinical facilities were the next most frequently mentioned factors. Slightly more than 10 percent of the schools listed these two items, and, again, there was little variation by type of program.

Cost to the student and lack of scholarship funds was reported by 9 percent of the total respondents. Here, however, there was a noticeable difference in the type of schools mentioning the factor. More than 33 percent of the baccalaureate programs named this factor as inhibiting to enrollment, while relatively few of the other programs considered it significant.

Other factors were reported by comparatively few schools, but have been included in the tabulation.

If enrollment of nursing students is to be appreciably increased, it would appear that more and better-qualified students must be attracted to the nursing schools, more qualified faculty members must be secured, better financial assistance for students provided, and clinical facilities examined. In the present survey, less than 25 percent of the responding schools reported a present student enrollment of the maximum figure for their program.

One area clearly demanding immediate attention is the provision of more adequate scholarship and loan funds, particularly for baccalaureate students, as well as sufficient basic support for nursing education. Funds authorized by recently enacted federal legislation should assist in meeting this need. However, states and communities must share this responsibility and must provide more financial support for nursing education in the future than they have in the past.

CHANGES UNDER CONSIDERATION IN RESPONDING SCHOOLS

The variety of changes under consideration as reported by the responding schools indicates that nursing education is far from static. However, it is difficult to discern from the survey a definite pattern or direction of change. (Table 25)

A few programs—largely diploma and associate degree—plan to shorten their time span; others anticipate an elongation. About 20 percent of the respondents plan an increase in their maximum enrollment potential; others report the factors that limit this potential.

Slightly more than 20 percent of the responding schools report plans to utilize additional clinical facilities; only five percent report efforts to better utilize such facilities.

Some schools report the addition or strengthening of content in certain areas; no schools report the elimination of any aspect of present content.

There would appear to be food for thought in these responses. Perhaps this would warrant further exploration through a structured questionnaire at a later time.

RECRUITMENT INTO PRE-SERVICE PROGRAMS

The American Nurses' Association estimates that approximately 5 percent of the girls who graduate from U.S. high schools each year enroll in nursing schools, or that admissions to schools of nursing are approximately equal to 5 percent of the girls graduating the previous year. This estimate is substantiated for girl high-school graduates of public high schools for the 1961-62 and 1962-63 academic years by computations done for the purpose of this study. (Tables 26 and 27)

Identical computations for the thirteen western states indicate that admissions to schools of nursing which prepare students for admission to the licensing examination for registered nurses equal 3.5 to 4 percent of the girl high-school graduates of the previous academic year.

Although admissions to schools of nursing as a percent of girl high-school graduates of the previous spring varied from state to state for the two years studied, individual states tended to maintain the same relative position. Arizona and Montana exceeded the national figure for both these years and were the only states to do so. At the other extreme, New Mexico and Nevada admitted the fewest students, in proportion to the number of girl high-school graduates, in both of the years studied.*

There are some indications that recruitment into schools of nursing may be improving in the West. The number of girl high-school graduates (from public high schools) for the 1962-63 academic year exceeded the figure for the previous year by 3 percent; figures from the survey of schools done for this study indicate that admissions to schools of nursing in 1963 exceeded those in 1962 by 8 percent.

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*Note: National figures were not yet available concerning students admitted for the entire academic year, 1963-64. For this reason, the data from NLN which reports only the period from September 1 through December 31, 1963, were utilized. These vary from the reports of our own school survey but to no greater degree than do those for the previous year; more admissions were reported in the WCHEN survey for both years. Since this is the only source of national data for purposes of comparison, these figures were utilized.

Distribution of students in programs leading to licensure as registered nurses appears to be quite different in the West from the national picture. To quote from *Facts About Nursing*:

> Total admissions to the initial programs declined by 0.6 percent between 1961-62 and 1962-63 because the decline in diploma candidates was not offset by increases of admissions in the academic institutions. The picture in 1963-64 is different. Data from NLN which were available for this edition of *Facts About Nursing* reveal an increase of 6.4 percent in total admissions between 1963 and 1964. Diploma school admissions still comprise the largest bloc of students, 72 percent of the total.[1]

Data collected through the WCHEN survey in January 1965 indicate that only 30.8 percent of the students admitted to western schools in 1964 enrolled in diploma programs. For the six-year period, 1959 through 1964, diploma school admissions comprised 38.8 percent of the total number admitted to programs leading to registered nurse licensure in the West.

SUMMARY. The two western states whose admissions to schools of nursing are highest for these two years in comparison with the number of girls graduating from high school also have nurse-population ratios above 300/100,000; the two states with the lowest rate of admissions to schools of nursing have nurse-population ratios below 300/100,000. It seems possible that a depth study of these four states might point up some of the factors affecting choice of nursing as a career.

In general, the rate of recruitment into schools of nursing is lower for the West than for the nation. However, the West is admitting a much higher percentage of its students into programs within colleges and universities than is true of the country as a whole.

Logically, the admissions to nursing programs in proportion to the number of girl high-school graduates should be higher in the West than the national figure. Associate degree programs attract a significantly larger percentage of the total number of students admitted to nursing programs in the West than in the entire United States. Since the associate degree programs are thought to be more attractive to the mature individual, and to men, than are the other types of programs, admissions to nursing programs in comparison with the number of girl high-school graduates of the previous spring should be more favorable in the West. It is possible, of course, that recruitment rates would be even lower in the West were it not for the associate degree programs.

THE REGISTERED NURSE STUDENT IN THE BACCALAUREATE PROGRAM

Twenty-seven baccalaureate programs, which accounted for 83 percent of the pre-service baccalaureate student enrollment in the West, reported the number of registered nurse students enrolled in 1964-65 by type of program in which the pre-service nursing preparation had been secured and by full-time or part-time enrollment.

Registered nurse students enrolled in these schools totaled 1,050—a figure approximately 20 percent as large as the pre-service student enrollment. Associate degree graduates made up somewhat less than 10 percent of the registered nurse student group. Of these registered nurse students, 58 percent were classified as full-time.

The registered nurse students enrolled were classified as follows:

Associate Degree Graduates:	Number	% of Total
Full-Time	56	5.3
Part-Time	35	3.2
Subtotal	91	8.5
Diploma Graduates		
Full-Time	552	52.6
Part-Time	407	38.9
Subtotal	959	91.5
Grand Total	1,050	100.00

Comparison with the number of pre-service students enrolled helped to put the size of the registered nurse enrollment into better perspective. Reported as a percent of the pre-service

Figure 15. Out of Each 10 Students Enrolled in Baccalaureate Nursing Programs in The West . . .

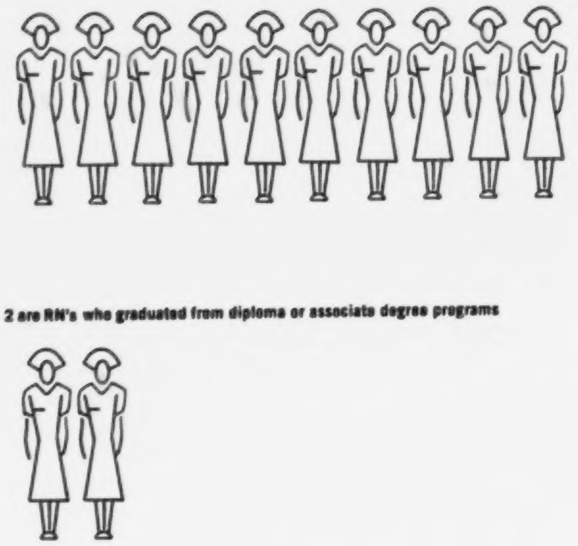
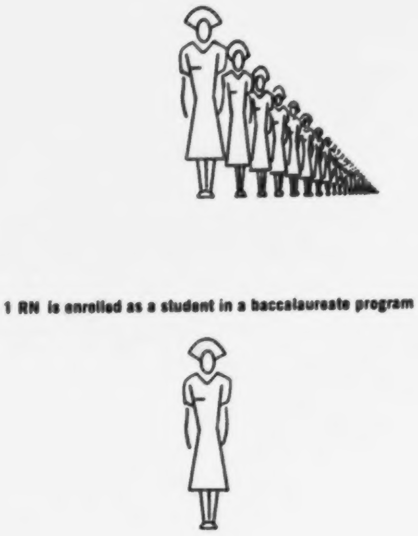


Figure 16. For Each 100 Registered Nurses Employed in The West . . .



baccalaureate enrollment in these twenty-seven schools, the registered nurse student enrollment, by category is:

	Enrollment as a Percent of Pre-Service Student Enrollment	
Associate Degree Graduates		
Enrolled Part-Time	0.6%	
Enrolled Full-Time	1.1%	
All Assoc. Degree Grad.		1.7%
Diploma School Graduates		
Enrolled Part-Time	7.6%	
Enrolled Full-Time	10.3%	
All Diploma School Grad.		17.9%
All Registered Nurse Students		19.6%

A second comparison, this between the number of registered nurses and the number of registered nurse students enrolled in 1965 in the responding schools, revealed that the number of registered nurse students equalled only about 1 percent of the number of employed registered nurses in the thirteen western states in 1962 (the most recent available figures), and no doubt would equal an even smaller fraction of the number employed in 1965. (Tables 28, 29 and 30)

As another method of evaluating the size of the group of registered nurses enrolled in baccalaureate nursing programs, associate degree and diploma programs were asked to report the number of their graduates who had enrolled in a baccalaureate nursing program within one year after graduation from the pre-service program. The reporting period was from 1959 through 1964. Responses indicated that 164 associate degree program graduates (approximately 5 percent of that group) and 560 diploma program graduates (approximately 7 percent) had enrolled in baccalaureate programs within one year after graduation. These figures indicate that relatively few students planning to secure baccalaureate degrees in nursing initially enrolled in other types of programs; however, since each of these students spent more time in earning a baccalaureate degree than would have been required if initially enrolled in a baccalaureate program, the total time wastage was still considerable. (Table 31)

Nursing Course Credit Granted to Registered Nurse Students

Responding baccalaureate programs reported a range in semester-hours credit (or the equivalent in quarter hours) required for the baccalaureate degree in nursing. The required credit hours ranged from twenty-six to seventy-two semester hours in nursing.

Twenty of the schools also reported the maximum number of credit hours in nursing that could be granted a diploma or associate degree program graduate. Many responses to this question included a comment that a satisfactory score on an examination, either teacher-made or standardized, was required before the granting of any credit for nursing courses in a diploma or an associate degree program. Since the respondents were not specifically asked about evaluation methods used in granting credit, it is possible that challenge through examination is required by most, or all, of these institutions granting the baccalaureate degree in nursing.

The average maximum number of semester hours of nursing course credit that a diploma or associate degree graduate could be granted for previous work was twenty-eight, with a range from twelve to forty. This indicates that it was possible for a registered nurse student to acquire approximately 50 percent of the nursing course credit hours required for a baccalaureate degree through challenge. Some respondents specifically mentioned that challenge was permitted or that credit was given only for lower division nursing courses. The same is probably true in other schools.

In only two instances were the number of credit hours that could be allowed different for the associate than for the diploma graduate. In one of these two, more credit could be granted the diploma graduate; in the other, the associate degree graduate could be granted the larger number of credit hours.

Maximum Number of Registered Nurse Students That Responding Schools Could Enroll

Twenty of the thirty-five baccalaureate programs were able to report an estimate of the maximum number of registered nurse students that could be enrolled with the faculty, financial resources, and facilities available in January 1965.

These estimates totaled 895, or approximately the number reported as enrolled in full-time equivalents. (Present full-time enrollment was reported as 608 and part-time as 442).

Some respondents indicated that, since a separate program was not offered for registered nurse students, only the total enrollment maximum could be estimated and that a breakdown into pre-service and registered nurse maximums was not possible.

Other respondents commented upon the sparsity of registered nurse applicants for admission; difficulty in fitting the registered nurse student into the basic program was mentioned by others.

FACTORS INHIBITING REGISTERED NURSE STUDENT ENROLLMENT. Baccalaureate nursing programs that indicated an enrollment of registered nurse students of less than the reported maximum enrollment figure were asked to list the factors considered inhibiting to achievement of the maximum figure. Fifteen of the thirty-five baccalaureate programs listed at least one such factor.

All of these fifteen respondents indicated the school had experienced a lack of qualified registered nurse applicants. The reasons underlying this lack were reported, in order of frequency mentioned, as: (1) potential students lacked the financial resources to meet both educational and personal costs; (2) family responsibilities of potential students; (3) lack of interest in further education on the part of registered nurses; (4) requirements of the program, in both length of time and content; (5) the school not granting "blanket" credit for previous nursing program; and (6) insufficient effort to recruit registered nurse students. Other reported bases for limitation included lack of clinical facilities and faculty of inadequate size. One respondent mentioned a need for faculty qualified to develop content both interesting and challenging to the registered nurse student, and another indicated a need for revision of course offerings. Lack of national accreditation was mentioned by one respondent as a factor restricting registered nurse enrollment in that program.

SUMMARY. Unsound educational programs are indefensible in any field and are no less so in nursing. The majority of the registered nurses who received their pre-service preparation in diploma or associate degree programs will not and should not seek admission to a baccalaureate program, for many sound reasons that need not be recounted. However, those who are so motivated are a valuable nursing resource.

The number of nursing positions demanding baccalaureate preparation for proper performance will be even larger in another decade than at present. Nurses with the graduate-level preparation essential for faculty positions as well as for leadership roles in hospitals and agencies will also be needed in ever-increasing numbers, and the baccalaureate degree is required for admission to graduate programs.

Many of the presently retired nurses who could re-enter a nursing career as their family responsibilities decrease were initially enrolled in diploma programs, as was the trend when these nurses completed high school. Such individuals, whose capabilities and interests are also in line with baccalaureate preparation, could contribute more toward meeting the West's nursing needs if they returned to school and earned a baccalaureate degree in nursing before returning to their careers. Society would ultimately benefit if some of the currently employed registered nurses secured nursing preparation at the baccalaureate level.

It would appear that effort should be made to attract larger numbers of qualified registered nurses—graduates of diploma or associate degree programs—into baccalaureate programs during the immediate future. Plans developed to achieve this purpose should be of comparatively short duration and designed in a manner that would not encourage students now enrolling in nursing programs to select this much longer route to the baccalaureate degree. In other words, efforts to attract the diploma or associate degree graduate into baccalaureate programs should be directed toward those who completed their initial nursing education in the past. Such efforts should not be directed toward those beginning their nursing education at the present or in the future. Criteria for the award of the baccalaureate degree in nursing, as established by the college or university, should be the same for the registered nurse student as for the pre-service student.

THE BACCALAUREATE GRADUATE ENROLLING IN MASTER'S PROGRAMS

Responding baccalaureate programs were asked to report the number of their graduates for each of the years, 1959 through 1964, who enrolled in a master's program in nursing within one year of graduation after the award of the baccalaureate degree.

The responses were totaled, by state, and are reported as a comparison with the total number awarded the baccalaureate degree, classified as pre-service or registered nurse students in the baccalaureate program. (Table 32)

The number reported as enrolling in a master's-level program approximated 7 percent of the baccalaureate graduates. However, nearly 13 percent of the registered nurse students awarded the baccalaureate degree continued their education within one year, while only 4 percent of the pre-service students did so.

There are many factors which might account for the difference in the percentages of pre-service and registered nurse graduates who continue their education. The registered nurse group, first of all, is comprised of highly motivated people; otherwise, they would not have completed the requirements for the baccalaureate degree itself. Secondly, they tend to be of more mature years, when home and family responsibilities may not be of as primary a concern as for the younger pre-service graduate.

Perhaps the apparently low percentage of persons earning baccalaureate degrees in nursing, and particularly of the pre-service graduates (the majority of whom are women) who continue their education immediately, is related to the total picture of women and education, as noted in the following quotation:

> Yet, as the Report of the President's Commission on the Status of Women pointed out, today's ratio of women earning higher degrees has declined as compared with the 1930's. In 1939, 40.4 percent of the second-level degrees, and 15.4 percent of the doctor's degrees were awarded to women; the comparable figures for 1964 were 31.8 and 10.6 percent, respectively. Had the 1930 ratios held in 1964, women would have earned some 8,700 additional second-level degrees, and about 700 more doctorates.[2]
>
> Women are living longer, marrying younger, and completing their child-bearing cycle at an earlier age than in the past. The re-entry into the labor market of the mature woman is an increasingly common phenomenon. Many of these women, who may have had some college education or have completed their undergraduate education before marriage, are now seeking to continue their education. We may expect that an increasing number of advanced degrees earned by women will be awarded to older women, in their thirties and forties.[3]

Our most immediate concern should be with the desperate need for nurses with graduate preparation. It may be that we should expend more of our efforts toward attracting the mature nurse into the graduate program. It is possible that the percentage of baccalaureate graduates continuing immediately into graduate school may be too much under the control of social factors for recruitment efforts in their direction to be sufficiently productive to meet the existing need.

FACULTY IN NURSING PROGRAMS

Responding schools reported a total of 2,195 registered nurse faculty members, of whom 1,949 (89 percent) were on a full-time basis. Non-nurse faculty members totaled 293, of whom 202 (69 percent) were part-time on the nursing program faculty.

ACADEMIC PREPARATION OF REGISTERED NURSE FACULTY. As might be expected, the best-prepared faculties, in terms of percentage of the group holding higher degrees, were in the universities offering nursing programs at both the baccalaureate and the master's levels. The faculties reporting the smallest percentage of the faculty holding a higher degree were the practical nursing programs, where only 22 percent of the full-time faculty members had earned master's or doctoral degrees and where 25 percent did not hold even the baccalaureate. Approximately 25 percent of the full-time faculty members in diploma programs had earned master's degrees, but nearly 10 percent had not earned the baccalaureate. The schools offering baccalaureate but not master's programs reported that approximately 10 percent of their full-time faculty members had not earned higher degrees; the associate degree programs reported approximately 25 percent. (Tables 33, 34, 35, 36)

ACADEMIC PREPARATION OF NON-NURSE FACULTY MEMBERS. Non-nurses comprise approximately 10 percent of the faculty members of the responding nursing programs—and 66 percent of this group are on a part-time basis. For this reason, the level of academic preparation of the non-nurse faculty probably does not exert as great an effect on the quality of education provided as does that of the registered nurse faculty.

If the percentage holding doctoral degrees is used as a measure, the best-prepared faculty group is the part-time, non-nurse one. However, the extent of their participation in the nursing programs may be minimal. A larger percentage of the non-nurse, full-time faculty held doctoral degrees than of the full-time nurse faculty; on the other hand, there was also a larger percent who did not hold any earned degree. (Tables 37, 38, 39, 40)

SUMMARY. The West needs more nurses, and to secure more it must admit larger numbers of students to its programs of nursing education. However, expansion of student enrollment without first up-grading the faculties of nursing schools appears most inadvisable. More nurses must be prepared at the master's and doctoral levels to serve as faculty members before additional numbers of students can be given preparation of a desirable quality.

FUTURE NEEDS FOR NURSE FACULTY MEMBERS

Responding schools reported their needs for additional registered nurse faculty members, either to replace present faculty members who retire or resign or to fill new positions which will be created, for the 1965-66 academic year and for the period, 1966-70. The level of academic preparation desired of the persons to be appointed, with the major area of study of those for whom a master's degree was indicated, was reported by the responding schools.

NUMBER NEEDED. The total of 422 new faculty members needed for the 1965-66 academic year equalled nearly 22 percent of the full-time registered nurses on the faculties in January 1965. Approximately 57 percent of those needed for the 1965-66 academic year were to replace members of the 1964-65 faculty.

Responding schools anticipate a need during the 1966-70 period for 679 new full-time registered nurse faculty members, a figure equal to 35 percent of the full-time nurse faculty of January 1965.

The total number of registered nurse faculty members for whom need is anticipated in 1965 through 1970, equals 57 percent of the number on faculties in January 1965. (Tables 41, 42)

ACADEMIC PREPARATION DESIRED. Responding schools indicated that they hoped to recruit persons with master's degrees for the majority of the faculty positions to be filled. When the level of academic preparation desired for those to be appointed in 1965 is compared with the same level for those to be appointed, 1966-70, it is noted that schools hope to appoint a smaller percentage with less than master's level preparation and to increase the percentage of new appointees who hold doctorates. (Tables 43, 44)

Major Area of Study Desired of New Appointees. The largest single group to be appointed during 1965, according to the respondents, would be the 29 percent for whom only the baccalaureate would be required. At the master's level, the greatest need was seen for persons with a major in medical-surgical nursing, then for those majoring in maternal-child nursing, then for majors in psychiatric nursing, and finally majors in public health nursing.

For the 1966-70 period, the largest single group (27 percent) to be appointed will be those nurses with majors, at the master's level, in medical-surgical nursing. Appointments to persons holding only the baccalaureate degree will be largely limited to the practical and diploma nursing programs and will make up about 17 percent of the total. A major, on the master's level, in maternal-child nursing will be the desired preparation of 17 percent of the new appointees, and a major in psychiatric nursing of 13 percent. Persons with majors in public health nursing will be sought for 9 percent of the positions.

Responding schools offering the baccalaureate or both the baccalaureate and master's programs indicated that they hoped to fill 19 (or approximately 14 percent) of their 1965 vacancies with persons holding an earned doctoral degree; for the 1966-70 period, these sights have been raised to 22 percent of the anticipated vacancies, or 73 positions. (Tables 45, 46, 47, 48)

NURSE STUDENTS IN GRADUATE-LEVEL PROGRAMS

Eight western universities offering baccalaureate programs in nursing have also conducted for a number of years graduate programs with a major in nursing. One additional university, without a baccalaureate nursing program, offers a master's program in public health nursing.[4]

In addition to the master's programs, some of these universities offer post-master's programs for nurses. Although the first doctoral program in nursing in the West was not initiated until the fall of 1965, nurses have engaged in doctoral study in related disciplines in several universities.

This section reports the data submitted by the nine universities offering master's programs in nursing, including information relative to registered nurse students on the post-master's and doctoral levels. It is probable that some registered nurses have pursued study on these advanced levels in other universities. However, there was no effective means of obtaining information relative to registered nurse students in the other western universities.

Master's Programs

Admissions. A total of 2,271 registered nurse students were admitted to master's programs during the six years, 1959-1964. There was a gradual increase in the number admitted annually until 1964, when the number admitted dropped by approximately 6 percent. The number admitted in 1964, however, still exceeded the 1959 admissions by almost one-third. (Table 49)

Graduations. Master's degrees were granted to 1,293 registered nurses during the period studied. The number of degrees awarded annually increased consistently until the number graduated in 1964 was 92.5 percent larger than the 1959 figure.

Tabulation of graduates by major area of study revealed that medical-surgical nursing was the major of nearly 39 percent of the group. The next most popular field was psychiatric nursing —the major of approximately 20 percent of the graduates, and 12 percent had majored in the maternal-child field. Approximately 10 percent had concentrated on nursing service administration, and nearly 5 percent on school of nursing administration. The major of another 5 percent was reported as Teaching in Schools of Nursing. Other fields had attracted comparatively small numbers of these students. (Table 50)

Present Enrollment. Enrollment in master's programs in January 1965 totaled 520. Three of these students had as their goal the degree of Master of Personnel Services.

As was true with the 1959-1964 graduates, medical-surgical nursing was the major area of study for the largest single group of students—30 percent, with the psychiatric nursing and maternal-child fields following in that order.

Note should be made, however, of the percent of students with majors in the field of administration. Slightly less than 7 percent had elected majors in nursing service administration, as compared with almost 10 percent of those graduated during the 1959-1964 period; nursing school administration was the major of 2 percent of the current students, compared with almost 5 percent of those graduated during the five years. (Table 51)

The majority of the students enrolled in master's programs were engaged in full-time study, with only 7 percent reported as on a part-time basis.

ATTRITION. Approximately 20 percent (458 out of 2,271) of the students enrolled in master's programs are not accounted for when the number of graduates and the number enrolled (both full- and part-time) are totaled.

MAXIMUM ENROLLMENT IN THE MASTER'S PROGRAMS. Respondents indicated that for the 1964-65 academic year approximately 575 students could have been enrolled in the master's programs—or approximately 10 percent more than were enrolled for that year. Plans for expansion of the maximum enrollment potential reported by the responding schools indicate that by the early 1970's the maximum enrollment will be increased by about 200 spaces. This would permit an increase of 38.5 percent above the actual 1964-65 enrollment figure and 34.8 percent above the maximum enrollment figure for 1964-65.

FACTORS INHIBITORY TO THE ACHIEVEMENT OF MAXIMUM ENROLLMENT. The universities offering a master's program in nursing responded to an open-ended question relative to the factors considered limiting to the achievement of the maximum enrollment potential of their schools. In order of frequency mentioned, these factors with the number and percent of total respondents listing each factor are tabulated below:

Factor	No. of Schools	Percent of Respondents
Lack of qualified candidates for admission	4	44.4
Lack of qualified faculty	4	44.4
Lack of clinical resources of desired quality and type	4	44.4
Potential student lack of financial resources	3	33.3
Lack of physical facilities (classrooms, offices, etc.)	3	33.3
Changes in the federal traineeship program	2	22.2
Program not yet submitted for national accreditation	1	11.1

Some of these factors, no doubt, are interrelated. The lack of qualified applicants, at least in part, is related to the potential student's lack of financial resources and, possibly, to the uncertainty of continuance of the federal traineeship program in existence when plans for the 1964-65 academic year were being developed. The need for additional qualified faculty members may be based in part on the school's budget for faculty salaries but may also be a reflection of the dearth of persons available who are qualified to teach on the graduate level. The lack of adequate classroom and office space may be much more easily alleviated than the lack of clinical facilities of the desired type and quality.

PLANS FOR CHANGE IN THE MASTER'S PROGRAMS. All nine of the responding universities indicate that their master's programs in nursing will be continued. Seven of the nine do not foresee any changes in the length of the program, and two will add an additional quarter or semester to provide more clinical and practice teaching experience. Three schools report efforts to make the required curriculum more flexible or to provide better structuring of the student's work in the minor field.

Post-Master's Students

Responding schools reported that sixty-nine registered nurse students had completed planned programs of study on the post-master's level during the six-year period. One student's program was in the maternal-child field, six were in nursing administration, and the other sixty-two were not classified by a nursing field.

A total of forty-five registered nurse students were reported as currently engaged in a planned post-master's program. Of this group, four were engaged in study of research methods, four in the maternal-child area, and five in nursing administration. The remainder were reported as unclassified.

Doctoral Students

The nine universities which offer master's programs in nursing reported a total of forty-two registered nurses engaged in doctoral study on their campuses. All these students have anticipated graduation dates before 1970, with 29 percent planning to complete their programs in 1965 and 31 percent hoping to graduate in 1967. (Table 52)

The behavioral sciences have attracted the majority of these doctoral students—29 percent are majoring in sociology, 14 percent in psychology, and another 14 percent in anthropology, for a total of 57 percent of the group. Education is the field of study of another 29 percent. Three students are studying in the field of public health administration, one in epidemiology, and two in physiology.

Since the 260 responding schools in the total survey indicate a need for ninety-three additional nurses with doctoral degrees on the faculties by 1970, there is evidence of need to increase the number of nurses enrolled in doctoral study. The recent initiation of the doctoral program in nursing at the University of California, San Francisco, should assist in meeting this need.

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[1] *Facts About Nursing* (New York: American Nurses' Association, 1965), p. 79.

[2] Eugenia Sullivan, "Trends in Earned Degrees Awarded to Women," HEALTH, EDUCATION, AND WELFARE INDICATORS, March 1965 (Washington, D. C.: U. S. Department of Health, Education, and Welfare, 1965), p. 23.

[3] *Ibid.*, p. 25.

[4] The University of Hawaii opened a graduate program in the fall of 1965, bringing to 10 the total number of universities offering master's in nursing.

Population explosion, perhaps more than any other pressure, is already changing our world in ways both evident and unpredictable. Our world will be changed not only by the increased number of people in it, but by the increased possibilities for interaction among people. The number of possible interactions among people increases far more rapidly than the head count. In fact, when one person is added to an existing population, the number of possible two-person interactions is increased by the size of the population. That is, if we had a group of ten people, and another person were added to that group, the number of two-person interactions within the group would be increased by ten. The number of possible *multi*-person interactions increases still more rapidly. Since it is these interactions that produce many of the problems of public health, welfare, and social organization, it is apparent that the demands of society will increase geometrically as population increases arithmetically.

Knowledge is exploding just as rapidly as population. Facts are rabbits. New knowledge is being added at unprecedented rates to man's store of recorded information, and much old information is simultaneously being retired as obsolete and valueless. Educated people, unless they maintain constant programs of intellectual renewal and re-education, are subject to the same fate.

The education of tomorrow's woman will be continuing education. I'm sure you're all familiar with the following statistics, yet I would like to review them for you briefly to make the remarks that follow more meaningful. Half the women in the country today have completed childbearing by the time they are 26 years old. By the time the youngest children leave on the school bus for the first grade, these women are only 32 years old, with many decades of life ahead of them. Even granting that college women may be somewhat retarded in this respect, and granted that the departure of the youngest child for school does not relieve his mother of all maternal responsibilities, these figures still point to the decades of potential productivity left to today's woman as her children need her less and less. Typically her vocational life will be long, even though it is interrupted. Her education should be continuous, carrying her through the family years into the years of maturity and vocational contribution.

Dr. Virginia L. Senders
Staff Associate
New England Board of Higher Education

One fact, which is immediately apparent and must be dealt with in some fashion, is that we are entering a revolutionary era in the basic medical sciences—an era in which the principles guiding our knowledge of man and his functioning will become increasingly unified and orderly and, at the same time, increasingly complex. It is an era in which we have already seen such formidable accomplishments as a more exact characterization of DNA, with its almost frightening prospects for improved understanding of some of the basic secrets of life itself and for potential intervention at the genetic level in the development of life. It is sobering to realize that 90 percent of all of the scientists in the history of the world are alive and at work right now, and to speculate about the impact this development will inevitably have upon teaching and practice in the health sciences.

Dr. John J. Conger
Vice President for Medical Affairs
and Dean, School of Medicine
University of Colorado

The West is a region of the mind as well as a region on the map. It is a land of great dreams and high aspirations. It is a land of growth. It is the new world of the New World. Its ways of thought and its ways of life are different from those of New England and the Northeast, different from those of the Old South, and different from those of the Middle West and Great Plains.

Dr. M. M. Chambers
Visiting Professor of Higher Education
Indiana University

Selected quotations from *The Changing West: Implications for Higher Education* (Boulder, Colo.: Western Interstate Commission for Higher Education, 1965).

PART VII

RECOMMENDATIONS FOR THE FUTURE

The West has improved its ratio of nurses to population since *Nurses for the West* was published in 1959. This increase, however, does not necessarily indicate a more adequate degree of satisfaction of recognized nursing needs. Needs increase more rapidly than does population; recognition of existing and emerging needs, as well as demand for their fulfillment, is stimulated by new knowledge. Furthermore, the ratio of nurses to population in some western states remains below the minimum of 300/100,000 suggested in 1957.

The nursing needs of the West will be no better met in the future than in the past and present unless orderly and specific plans to increase the number of employed nurses are developed and implemented. Also critical to the future is utilization of nursing personnel according to their preparation.

NURSING CAREERS MUST BE MADE MORE ATTRACTIVE

More Men Must be Attracted to Nursing Careers

Nursing has traditionally been a "woman's occupation." However, this designation may be a reflection of the persistently inadequate salaries and unfavorable working conditions rather than of any real difference in the ability of men and women to perform nursing functions. The careers of men are not interrupted by homemaking and child-bearing as are those of women. Consequently, one way to increase the available nursing resources is to attract more men to nursing careers. This requires concomitant and marked improvement in the financial and other rewards accruing to nurses.

Inactive Nurses Must be Encouraged to Resume Their Careers

Information contained in *The Nation's Nurses,*[1] the report of the 1962 inventory of registered nurses, indicates that 35 percent were not employed in nursing and that 75 percent of those not employed were below fifty years of age. Approximately 21 percent of the inactive nurses in one state gave as their primary reason for inactivity either the difficulty in arranging for child care or a feeling that mothers should be at home with young children.[2] These and several other of the reasons given are sound bases for career inactivity. There remains, however, a sizeable group of inactive nurses who are uncertain about re-entry into nursing and who could possibly be attracted to active status. This is true in one state; it may well be true in others.

Nurses Must be Permitted to Perform Duties Commensurate with Their Preparation

One source of disenchantment with nursing careers is assignment to work at a level other than that for which the individual has been prepared. The employers' expectations of nursing personnel must be redefined and, with that redefinition, tasks and rewards commensurate with preparation assigned.

Nursing Must be Made Attractive to Young People

The youth of today are more sophisticated about career choices than were most of their elders. Today's young people have a better opportunity to examine the rewards and satisfactions offered by a number of potential professions and occupations, and the same is true of those selecting careers somewhat later in life. The number of careers with which nursing must compete has increased tremendously, and to be competitive, nursing salaries and other rewards must be brought into line with those offered by other professions and occupations.

WE MUST USE NURSES MORE EFFECTIVELY

The nursing profession must carefully select, through study and research, the points at which its unique knowledges and skills can most effectively be utilized.

Any resource in scarce supply must be used wisely. This axiom applies to the unique knowledges and skills of nurses, as well as to those of any other specialized occupational or professional group. The former use of nursing students to perform many functions within a hospital has resulted in the delegation of duties to the nursing department that rightfully belong to other areas. Furthermore, nursing service has been given functions originally performed by other professions when manpower became scarce in those fields. Health programs developed during recent years have created new demands for nurses. Discovery of new knowledge has resulted in a need for ever better prepared nurses. Nursing cannot continue to accept all functions given it without deleting others from its scope if it is to achieve a level of resources adequate to meet the demand.

OPPORTUNITIES FOR NURSING EDUCATION MUST BE EXPANDED

Colleges and universities presently offering programs in nursing education at the associate or baccalaureate degree level must take steps to secure the support and resources necessary to increased enrollments and to continued improvement of the quality of education offered. Colleges and universities not presently offering nursing education programs should critically examine their situation and determine their potential as an additional resource for nursing education at the associate or baccalaureate degree level. These colleges and universities must take into account the availability of the teaching, laboratory, and clinical facilities essential to a program of good quality and the number of potential students available. Adequate financing must be assured, and the quality of faculty must be maintained. The guidelines developed by the baccalaureate and the associate degree seminars of the Western Council on Higher Education for Nursing are available to assist a college or university in the evaluation of its potential as a new resource in nursing education. (See Appendix D)

The number of students enrolled in pre-service programs must be increased if the West is to achieve by 1970 either the 28 percent additional registered nurses required to maintain the 1962 nurse-population ratio or the 58 percent needed to achieve a 400/100,000 ratio. Western schools preparing such students report their present enrollment could be increased only 22 percent with currently available resources. Increasing student enrollment without additional financial and other necessary support can only result in education of dubious quality. General education must continuously increase its portion of support for nursing education in order to lessen the burden of cost on the hospitalized patient.

Universities with graduate programs in nursing should evaluate their potential for expansion.

Professional nurses capable of graduate study should be actively encouraged to continue their education.

Colleges and universities considering the establishment of graduate programs in nursing should examine their plans in light of the WCHEN guidelines. (See Appendix D)

A major obstacle to expansion of enrollment in pre-service nursing education programs is the lack of a sufficient number of nurses with the graduate preparation in nursing. The 1970 enrollment potential of nine western master's degree programs in nursing will equal only 139 percent of the 1964-65 figure. A doctoral program in nursing has only recently been established in the West.

The number of professional nurses in the West with graduate preparation must be sharply increased if faculty positions in schools of nursing and leadership positions in hospitals and health agencies are to be filled with qualified persons. However, nursing education at the graduate level demands educational, clinical, and library resources available in or to relatively few universities. Universities without the essential resources should not establish programs. Mediocre master's programs will produce mediocre teachers and supervisors and will further dilute the quality of both nursing education and nursing service.

Continuation education must be made available to practicing nurses.

New knowledge is continuously being discovered. Ways to apply and adapt this new knowledge to the health problems of society are being developed and evaluated. The need for practicing nurses to increase and update their store of knowledge is greater than ever before.

Challenging and productive continuation education programs must be provided, and nurses must be actively encouraged to enroll, with employing agencies providing time and funds as required.

Nurses returning to practice must update their knowledge.

The need to attract inactive nurses to active practice is obvious, and there are many nurses in this inactive category. However, the return of such nurses to practice will produce optimal results only if they are given opportunities to update their knowledge in nursing.

CURRICULA DEVELOPMENT AND RESEARCH MUST BE ACCELERATED

Efforts should continue to identify nursing content and must be expanded in the future.

Experimental study is necessary in meeting present and future patient needs.

Nursing curricula can be identified only through study and research.

Present teaching methods should be evaluated and new ones tested.

The identification of basic principles and the search for new knowledge applicable to nursing problems are critically important to the education of future nurses. The growing differences in training in the various nursing programs makes curricula selection critical. Continuing study and greater effort are needed in both nursing education and nursing service to find and utilize the most effective ways to teach and to develop the skills necessary to nursing practice.

THE PUBLIC MUST BE BETTER INFORMED ABOUT NURSING AND NURSING CAREERS

The public should be informed about nursing and the careers in this field.

Nurses could better serve a society which is aware of the goals and purposes of nursing. Nursing could recruit more individuals from a public informed about the successes and failures, the satisfactions and disappointments, the challenges and problems of this fascinating field. To quote Barker and Staton:

> Although not formally a part of the analysis, an examination of the questionnaires revealed a need for an improved program of public information and education to correctly inform the public, guidance counsellors, and capable students of the demand for nurses, educational and training requirements of the profession, and particularly the rewards and satisfactions of nurse careers. Nursing organizations and associations, therefore, must improve methods of presenting the nursing profession to capable high-school students. . . .[3]

[1] *The Nation's Nurses* (New York: The American Nurse's Association, 1965).

[2] Anna E. Barker and Earl E. Staton, "Inactive Nurses," Public Health Reports, Vol. 80, No. 7 (July 1965), pp. 637-645.

[3] *Ibid.*, p. 644.

PART VIII

ACTION --- WHAT, WHEN, WHERE, AND BY WHOM?

Concerted, cooperative action by many individuals, institutions, agencies, and organizations will be required to alleviate the present shortages of personnel and to correct the inadequacies which exist in the field of nursing. This action must extend well into the future; a problem with roots extending back a century or more cannot be eradicated within a few days, weeks, or months. Such action, and the time and place of such action, must be carefully selected in order to achieve the most effective results. Coordination is crucial in order to avoid wasteful duplication or neutralization of efforts.

The need for action is obvious; less obvious are the answers to the critical question: What should be done, when should it be done, where should it be done, and who should do it? The final answers can be derived only as individuals and groups begin to think and work together toward solutions to the problems. The following guide is presented as a suggestion to those responsible for planning the present and future in meeting the nursing needs of the West.

Area

Making nursing more attractive

Nurses must receive financial and other rewards commensurate with those offered persons in other fields requiring comparable basic preparation and making similar demands upon the individual.

Items affecting the return to practice of presently inactive nurses must be explored. Such items might include the provision of child care by the community or the employing agency, the deductibility of child care expenses for income tax purposes, and salary levels which make return to nursing practice economically advantageous.

Action

Local and state committees composed of nurses, governmental officials, community leaders, and representatives of other health professions and occupations should be formed. These committees, working from the premise that the rewards accruing to nurses can be improved, should turn their immediate attention to selection of ways and means through which the necessary action is to be taken. Avenues for sharing and coordinating such efforts on a regional basis should be provided.

Area

Utilizing nurses more effectively

The particular contributions expected of nurses with various types of preparation should be determined and outlined. Assignment of functions outside these prescribed areas should be carefully reviewed.

Action

Committees of nurses with consultants from allied fields should review levels of performance expected of nurses with various types of preparation. Recommendations should be made on both the community and the state levels, while sharing and coordinating such efforts throughout the region.

Area

Expanding opportunities for nursing education

Responsibility for educational preparation in nursing rests with the system of higher education. Each college and university of the West should carefully evaluate its present efforts in nursing education in light of its potential contribution.

Needed opportunity for nursing education is not restricted to basic preparation of practitioners at each level; continuation education programs for those currently practicing, refresher courses for presently inactive nurses, and graduate-level programs in nursing must also be provided.

Action

Cooperative action of boards of control, legislators and other government officials, university faculties, and nursing and other health associations is essential in identifying and obtaining the necessary resources for educating nurses. Provision should be made for coordinating such efforts in each community, state, and throughout the region. Nursing associations and employers of nurses should encourage nurses to participate in the continuation education opportunities offered by the colleges and universities.

Area

Accelerating curricula development and research

Research is basic to the discovery, testing, and application of new principles in nursing education and practice. To be most effective, such research must have access to clinical resources, and nurse educators and practitioners must employ those principles most applicable to nursing content.

Action

Colleges and universities, with their research capabilities, and hospitals and agencies, with their clinical resources, should promote and support research in nursing and nursing education.

To minimize unnecessary duplication, coordinating efforts should be provided at both state and regional levels.

Area

Informing the public about nursing and nursing careers

Cooperative effort on the part of the nursing profession, the general education system, and public information media is needed for dissemination of information about nursing careers.

Action

The nursing profession should take the initiative for establishing joint committees of nurses, educators, and representatives from public informaton media to help inform the general public about nursing and nursing careers. Such committees should be formed on community and state levels, with provision for sharing and coordinating efforts throughout the region.

SUMMARY

To provide nursing resources adequate in both quality and quantity to meet the future needs of the West will not be an easy task to accomplish. However, continued effort in this direction will strengthen and accelerate desirable programs and will produce new programs.

Each community, each health institution and agency, each college and university, and each state should select responsible persons to develop and coordinate plans in their particular areas. Such persons should receive all the encouragement, assistance, and support available.

It is hoped that the committees appointed in the thirteen western states as a result of recommendations made in *Nurses for the West* will continue their efforts and will continue to coordinate activities within their states. The Western Council on Higher Education for Nursing provides an avenue through which efforts in each state can be shared and coordinated with others in the West.

APPENDIX A

ACTION IN THE STATES SINCE 1959

In *Nurses for the West* an action program on three levels—regional, state, and institutional—was recommended as an orderly route to an adequate supply of well-trained nurses for the West. Nursing Council representatives from each state were asked to take the initiative in stimulating state study and coordinated action on the state's nursing education problems.

In the one state, Alaska, with no educational programs in nursing, this task was assumed by the state Nurses' Association.

Approaches to the problem varied from state to state, as did the groups represented on the committee formed to begin study and action. In some states, position changes occasioned change in the Nursing Council representative primarily responsible for stimulation of study and action.

Early in 1965, the current chairman of each state committee was asked to submit a summary of action in that state for inclusion in this report. These summaries follow. It is hoped that each state committee will find helpful suggestions in these reports.

ALASKA

Since 1959, when *Nurses for the West* was published, there have been two studies relative to nurse manpower made in Alaska.

The first was conducted in 1960 by the Nursing Survey Report Committee of the Alaska Nurses' Association. Its purpose was "to get statistical information regarding nursing resources and nursing needs in Alaska in the hope that the Alaska Nurses' Association could then lend intelligent support to whatever nursing education programs are needed—and wanted—in Alaska." The following recommendations were made:

1. That a school of practical nursing be established which would be open to any qualified applicant, regardless of race, color, or creed; and which would include mental health nursing in its curriculum.

2. That in-service education workshops and institutes be used to help nurses keep up to date on nursing. Opinion from responses revealed that almost all nurses were interested in this type of education.

3. That a study of more depth and breadth is necessary before any sound conclusion regarding the establishment of professional nursing educational programs can be made. The findings of this study would seem to indicate that the need in this area is not immediate or acute.

Since 1960, a practical nursing school under the auspices of the Anchorage Community College has been started and is functioning successfully.

The second study was made in 1963 by Alaska Methodist University to evaluate the need for professional nursing education in Alaska. Initiation of such a program is still under consideration.

Alaska's greatest need for nursing personnel is for professional nurses prepared for teaching, administrative, and clinical specialist positions.

Prepared from information
submitted by Helen Graves

ARIZONA

Publication of *Nurses for the West* in 1959 gave impetus to formation of a committee in each western state, the chairman of which was appointed by the Nurse Consultant of the Western Council on Higher Education for Nursing. The Nurses for Arizona Committee functioned in cooperation with the State Board of Nursing under the chairmanship of Dean Loretta Hanner to collect data and prepare a brochure with the title, *Nurses for Arizona*. Information contained in that brochure indicates that we have a total shortage, and an acute deficit of those prepared to assume leadership roles.

Current and future plans

Since Mrs. Hanner's resignation as chairman of the Nurses for Arizona Committee its work has continued under my leadership. The members of the committee have become increasingly aware of Arizona's nursing problems and have sought means of solving them through the use of volunteer talent, since it has, of necessity, functioned without a budget.

The committee identified the study of clinical facilities as the problem on which it would focus for this year. This problem was selected thoughtfully with the knowledge that it held the key to the further expansion of existing educational and training programs in nursing, as well as the development of new ones. The first step toward the study was the development of an instrument for the appraisal of clinical facilities throughout the state. It was hoped that this study would uncover previously untapped resources, point the way to improvement of some which are not quite ready for utilization, and interest the users of nursing service in making the needed contribution, through provision of clinical facilities for teaching, to the preparation of a new generation of nurses.

While the development of the tool was in progress, another committee was formed under the leadership of the Arizona State Nurses' Association, known as the Joint Committee. This new committee has expressed interest in the study proposed by the Nurses for Arizona Committee and is seeking means of financing it. To date, the State Medical Association and the State Nurses' Association have made contributions, and the measuring tool is nearly ready for use. We are hopeful that a way can be found to employ the needed personnel to utilize the tool in studying Arizona's clinical resources.

It seems clear that the two most formidable problems in developing educational programs in nursing are: 1. adequately prepared faculty, and 2. suitable clinical facilities. State-wide planning is needed to determine: 1. readiness for a graduate program in nursing, and 2. the role of the junior college.

Nursing education is expensive and cannot be successful without an assured budget. It requires nurse faculty members in sufficient numbers to do clinical teaching and with minimum preparation of a master's degree in nursing. It requires clinical facilities which will give students an opportunity to apply theory to nursing practice with a wide variety of patients. The clinical facility should be well staffed with nurses and should provide the necessary class and conference rooms for teaching students.

Perhaps an even more basic problem for study is the type of nurse, and therefore, the type of educational programs which should be developed in the future. The nurses in Canada are now recommending that they reduce nursing education programs to: 1. two-year terminal programs in junior colleges, 2. baccalaureate programs, and 3. graduate programs. Questions of this nature must be answered before the shape of nursing can be planned for the future.

Submitted by
Pearl Coulter
Chairman, Nurses for Arizona Committee

CALIFORNIA

The representative to the Western Council on Higher Education for Nursing asked to chair the California Committee on Nursing Needs was, at that time, serving as Chairman of the California League for Nursing Committee on Nursing Needs and Resources. This Committee included representatives from the California Nurses' Association, California Hospital Association, California Medical Association, and California Boards of Nursing Education and Nurse Registration (professional and vocational). The chairman was also later appointed as the nurse representative on the Governor's Committee on Medical Aid and Health. An effective avenue for exchange of information and ideas among the various groups interested in the level of nursing resources of the state was thus provided.

Contributed funds totaling $700 were secured to support collection of information concerning nursing in California.

A ratio of 300 nurses to each ,100,000 residents was accepted as a reasonable goal in planning for the future, and it was recommended that the number of new nurses graduated each year be increased from 1,200 per year in 1961 to 5,100 by 1975. It was suggested that enrollment in diploma schools not be increased. It was recommended that associate degree and baccalaureate programs increase their enrollments to achieve a goal of 3,400 graduates from associate degree and diploma programs and 1,600 from baccalaureate, annually, by 1975.

It was recognized that increased enrollments in preservice programs would demand enlarged enrollment in master's and doctoral programs.

Local Leagues for Nursing were encouraged to make studies of nursing in local communities. Some studies were made, but leadership to carry the program forward seemed lacking at the local level.

A need for comprehensive planning for enrollment targets for existing schools and for the establishment of new schools was recognized by the committee. However, it seemed impossible to move toward such a goal without definitive studies. Unsuccessful efforts were made to secure funds to support such studies, and the idea had to be abandoned as too great in magnitude for accomplishment on a volunteer basis.

It seems essential to recognize that the needed studies cannot be done without imaginative leadership and adequate financial and other support.

A study was made by the Tri-Partite Committee on Nursing (made up of representatives from the Schools of Nursing of the University of California and the University of California at Los Angeles and from the State and Junior College Departments of Nursing) to determine whether the three existing graduate programs can admit all graduates of baccalaureate programs in nursing in California who are likely to qualify for graduate work. This study indicated that, for some years to come, existing programs can prepare all qualified baccalaureate graduates who apply for admission to graduate programs in nursing. Attention has been directed to criteria generally accepted as essential to the establishment of graduate programs in nursing.

In February 1965, representatives from health and education associations and boards met to consider the use of new approaches in determining the nursing needs of California and in developing plans to meet these needs. It was agreed that detailed information concerning nurses employed in hospitals and other institutions (comparable to that available on public health nurses in the state) was needed, and suggestions were made relative to methods for securing such data. It was agreed that this group should continue to consider steps in state and community planning to meet California's future nursing needs.

Submitted by
Helen Nahm, Committee Chairman

COLORADO

Following the publication of *Nurses for the West*, a committee of the Colorado League for Nursing served as the nucleus of a new joint committee on nursing needs and resources in Colorado, with Mrs. Henrietta Adams Loughran, then Dean of the School of Nursing, University of Colorado, as chairman. The efforts of this committee culminated in the 1963 publication of a report, "Toward Statewide Planning for the Education of Nursing Practitioners in Colorado." The following has been extracted from the introduction of that publication.[*]

* * *

The committee's study confirmed national and regional shortages of professional and practical nurses. The ratio between professional nurses and population in the state, when part-time and part-year employment was considered, supported employers' complaints of nursing shortages, with evidence of more acute shortages in the plains and mountain areas of Colorado. There were indications of overuse of nursing aides in many institutions as substitutes for professional and practical nurses.

Investigation of the types of nursing education programs operating in Colorado and of the use made of those facilities by prospective students of professional and practical nursing indicated a need for improved state-wide planning for nursing education.

While a socio-economic study adequate to determine causes was not within the scope of the committee's activities, the fact remained that only 2.7 percent of the girls graduating from Colorado high schools in 1961 enrolled in professional nursing programs, compared to 5.5 percent ten years earlier.

The studies on the national, regional, and state levels have demonstrated the reality of the "nursing shortage." It is, however, at the community or local level that action to overcome the shortage must be planned, initiated, and maintained if such efforts are to be effective. The present report does not attempt to answer the questions of who should organize, administer, and finance professional and practical nursing education in any community. The committee has, however, formed some opinions which should be tested by any group proposing changes in existing programs or the establishment of new ones.

Although it is, in general, more economical to expand existing educational facilities than it is to establish new programs, where evidence exists of needed change in geographic distribution of opportunity for professional or practical nursing education or of imbalance in the types of programs, it may be necessary to open new programs as well as to expand or combine existing ones.

When considering extensive changes in old programs or the formation of new ones, a stable source of income should be found other than the tuition paid by students, the value of students' part-time services to patients, or a hospital's contribution from patient fees. It seems clear that if effective programs are to be maintained for either professional or practical nurse education, adequate in quantity and quality to meet the needs of nursing service, the communities must find sources of private or public funds to support the educational preparation of practitioners. The "learning while earning" policy has long passed its useful stage.

Where colleges and universities elect to explore the assistance they might offer to professional nursing education, they will find the WCHEN guidelines a helpful starting point.

The principles of community participation in exploring local nursing needs and resources has been proceeding in three appropriate educational and clinical centers during the past two years—Grand Junction, Greeley, and Pueblo. The committee has been able to supply area data to those groups, which would otherwise have required considerable local expenditure of time and money.

While community effort is essential to effective renovation of the system of nursing education in Colorado, there is need for coordination of such activities at the state level. The Colorado State Board of Nursing and the Colorado State Board of Licensed Practical Nurse Examiners are bodies appropriate to provide that coordination.

Conclusion

This report represents three years of continuing effort to provide a clear picture of nursing and nursing education in Colorado. Studies such as the one presently reported are of benefit to society only to the extent that their findings can be utilized in planning for a better future. It is the hope of the CLN-WCHEN Committee on Nursing Needs and Resources that their report can be of use to those responsible for planning to meet Colorado's future nursing needs.

This report of the efforts of the committee appointed to stimulate planning and effort to better meet nursing needs in Colorado has been widely circulated. Members of the committee have also reviewed their findings and recommendations with many groups.

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[*] Colorado League for Nursing. **Toward Statewide Planning for the Education of Nursing Practitioners in Colorado.** (Wheatridge, Colorado: Colorado League for Nursing, 1963), pp. 1-3.

HAWAII

Following the publication of *Nurses for the West* a two-day work shop was held involving hospital and educational administrators, physicians, nursing educators and representatives of interested citizen groups. These representatives considered the revised and up-dated figures submitted by the Board for Nursing and recommended that the State Legislature be requested to finance a state study of nursing and nursing education which would give us information regarding the total number and kinds of nurses needed in Hawaii by 1970 and the recommendations for meeting the needs. The responsibility for obtaining the study and implementing it when made was left to the Coordinating Council of the Hawaii Nurses' Association and the Hawaii League for Nursing.

In 1961 the Legislative Reference Bureau was mandated by the Legislature to make such a study. When the study was completed a report of the Legislative Reference Bureau called *Report No. 3, Nursing and Nursing Education in Hawaii*, was published in 1962.

Plans for Implementing Recommendations of Workshop

As a result of the findings of the Legislative Reference Bureau *Report No. 3, Nursing and Nursing Education in Hawaii*. The Hawaii Nurses' Association and the Hawaii League for Nursing explored ways of implementing the various recommendations. Task assignments were referred to each of the organizations for thorough action programs. The joint associations undertook the exploration of ways to resolve the basic problem: the predicted shortage of 1,678 adequately prepared professional nurses by 1970. This was done by the appointment of nursing and community members to a special subcommittee, core of an eventually larger committee of broader community representation. This committee identified many areas that need further exploration, all directly related to the predicted shortage of nurses, and ultimately reflecting the quality of nursing care to be rendered to the community and affecting the level of the health of the people of Hawaii. The committee then explored the figures indicating the kinds of nurses the community needed, the kind of education needed for them, and the best facility for this type of education. The kinds of nurses the community needed were identified as: 1. those who give direct bedside and health care, and 2. those who can supervise and direct and educate in addition. It was further identified that an overall state plan for nursing education to meet this can realistically be: 1. a master's program, 2. an expanded baccalaureate program, 3. an Associate of Science or Arts in Nursing program in community colleges, and 4. one or two diploma programs until the associate degree programs prove adequate.

Progress Toward Implementing Recommendations of Study

1. A master's program preparing clinical specialists in four fields and qualified for supervision and teaching is ready for implementation as soon as qualified faculty can be found.

2. A two-calendar-year program leading to an Associate of Science degree was started with 20 students in September 1964 in the College of Nursing. The goal for 1970 is enrollment of 80 students. This is to be transferred to the first of the community colleges now being developed which has adequate facilities for a nursing program.

3. The baccalaureate degree program in the College of Nursing is being expanded toward reaching an ultimate goal of 300 students. The enrollment has increased from 140 to 220. The faculty of the baccalaureate program is studying methods of adequately preparing a larger number of baccalaureate graduates within realistic budget and facilities.

4. A continuing education program for employed nurses with emphasis on those in leadership positions has been initiated. The second series of the continuing-education program sponsored by WICHE is in its second year. A continuous program of refresher courses and workshops is anticipated.

5. The Hawaii League for Nursing has solicited and received private foundation funds to employ a full-time executive director to make possible an intensive recruitment program for all nursing education programs.

6. The Hawaii Nurses' Association has taken the responsibility for a program to inform nurses of needs and new developments in nursing and nursing education—while the Hawaii League for Nursing is conducting a program with school counselors and the public.

Plans call for the continuance of these programs with emphasis on: continuing education for employed nurses and returnees to the field; counseling of students so that they enroll in the program most suitable to their goals and potentialities; promotion and development of the master's programs in nursing.

The development of programs for more effective utilization of professional nurses in hospitals seems to be the next problem to be attacked.

While a continuing assessment program has not been outlined, the need for such a program is realized and will be carried on.

Submitted by
Virginia Jones, Chairman

MONTANA

In 1961, the Montana Nurses' Association and the Montana League for Nursing in cooperation with the U.S. Public Health Service, attempted to determine the nursing resources of Montana. Questionnaires were sent to all nurses, active and inactive, who were registered to practice in Montana in 1961. Data from each group were secured by use of different questionnaires. Through these questionnaires information was secured as to the employment status of registered nurses, their educational preparation, their availability, their need for further preparation and plans for securing such preparation. The study data were analyzed and tabulated by employment status, i.e., full-time employed, part-time employed or inactive, by graduate nursing students at Montana State College, and the studies are available there as reference.

Findings of the section of the study dealing with professional nurses who were not gainfully employed in nursing revealed that the most important reason for the nurse remaining inactive was the husband's preference that she not work. Not all nurses were educationally qualified for the highest-level positions they had held. Over one-half the inactive nurses expected to return to active nursing practice. Most of the nurses indicated an intention to return to hospital nursing and to staff nurse positions.

At the suggestion of the study committee, the Montana Nurses' Association and the Montana League for Nursing prepared some guidelines to be used in developing and conducting refresher courses in nursing. Also, they have prepared some guidelines for in-service education programs, including orientation of new nursing service employees in hospital situations. Also, recognizing that Schools of Nursing have some responsibility for assisting in continuing education for nurses, the Schools of Nursing of Montana, through their Directors of Nursing, are available for consultation in their areas. Recognizing that better patient care is dependent in part on improving opportunities for nurses to continue their preparation for nursing practice, Montana Nurses' Association and Montana League for Nursing have appointed a joint committee (1) to encourage and give support to refresher courses for both employed and inactive nurses, (2) to encourage ongoing in-service education in all nurse-employing agencies, and (3) to encourage nurses to seek additional preparation in institutions of higher learning.

Extracted from materials submitted by
Anna Pearl Sherrick

NEVADA

In the spring of 1962, a group of consumers, employers of nursing service, and representatives from nursing education met to plan the framework for an organization which would consider statewide problems in nursing. After a series of meetings, it was decided that the Nevada Public Health Association would be the sponsoring agent for a nursing committee which would include representatives from nursing and the employers and consumers of nursing service. This committee outlined its goals with the assistance of consultation from Jo Eleanor Elliott, Nursing Consultant for WCHEN, Hazel Shortal and Ellwynne Vreeland, Consultants with the U.S.P.H.S. Subcommittees were appointed under the nursing committee and all groups involved proceeded to work toward the following goals:

1. To bring up to date information which would indicate current and near future needs for nursing personnel in all fields of nursing for the State of Nevada.

2. To determine from the findings: a. the need for other schools of nursing in Nevada; b. the kinds of nursing education programs which would best serve the needs; c. the best placement for such schools, if needed; d. facilities available for the development of such schools.

3. To suggest ways of meeting needs as determined by analysis of the data.

4. To determine or plan a way of keeping data on nurses current. By 1964 the committee on nursing had collected up-to-date information and compiled this information in a report entitled *Nursing in Nevada 1964*.

The outcome of the work of the committee has resulted in the following:

1. A statement of goals for the future.

2. Recommendations and suggested courses of action for the present. At the time of this writing, the committee continues to be active in promoting the attainment of the recommendations in the report. Those recommendations which have already been accomplished or are being accomplished are: 1. the development of an Associate of Arts Degree program at Nevada Southern University (Las Vegas); 2. plans for expansion of the Orvis School of Nursing which include the expansion of physical facilities and faculty; 3. the expansion of the continuing education program of the Orvis School of Nursing in cooperation with hospital administrators and in-service directors to enlarge plans for workshops or seminars in clinical nursing and leadership scales necessary for professional nurses.

The leaders in nursing service and nursing education in northern Nevada have been meeting together at least once a month for the past three years to implement plans for the improvement of nursing education and nursing service in the State of Nevada. The Orvis School of Nursing initiated the plan for bringing together the leaders in nursing service and nursing education. These meetings are now jointly planned by both nursing service and nursing education. This group has been instrumental in making wide use of outstanding consultants in the field of nursing. The meetings have resulted in: 1. closer working relationships between nursing service and nursing education: 2. the strengthening of the interservice programs in hospitals and agencies in the area; 3. the planning for summer work programs for students in nursing; 4. better preparation for student learning experiences in the clinical-laboratories; 5. the orientation of nursing service leaders to the philosophy and objectives of the Orvis School of Nursing; 6. a better understanding of the problems of the orientation of the new graduate to her first position in nursing.

The new Associate of Arts Degree program in nursing at Nevada Southern University accepted students in September 1965.

Submitted by
Marjorie Elmore

NEW MEXICO

In response to the suggestion in *Nurses for the West*, a Committee on Nursing Needs and Resources in New Mexico was formed, with Virginia Crenshaw as chairman. Committee members represented the New Mexico Board of Nursing, the state Nurses' Association, the League for Nursing, hospital nursing service, and public health nursing. This committee has been most active, and their efforts have produced a summary report of nursing needs and resources in Arizona for use as a base for future planning. The following review of activities was submitted by the committee chairman:

To determine the state's needs and how to meet them

A committee was formed to determine the state's nursing resources and needs. This was Phase I of our committee work. Key nurses in leadership positions, organizations and agencies met consistently for two or three years struggling with the problem. First, we learned that we could not do what we wanted to by our casual efforts. Secondly, we learned that we could not find one of our own groups who could give even paid time to such a project. Thirdly, we commissioned professional service, namely the Bureau of Business Research at the University of New Mexico, to undertake the study that we had in mind. In the early days of our efforts we were able to secure the services of Blue Cross to put our registration information on punch cards. When we arrived at the serious intent of having the Bureau of Business Research do the study we realized that we needed $2,000 to finance the report and the publication of it. The major amount of this money was secured from the State Board of Nursing. Additional donations were made by the State Nurses' Association, State League for Nursing, the Planning Program in the Mental Health Division of the State Health Department, and individual nurses' contributions. Within the study, the nurse-to-population ratio and the needs in relation to recommendations were identified.

Information from the registration forms is on punch cards. We strongly recommend that someone, possibly WICHE, set up patterns for programming this type of data. We need assistance and guidance in selecting the type of information that could be obtained and productively utilized. If one pattern were developed and used by all the western states, just think of the types of comparable studies that could be made.

Our criteria for the number of registered nurses needed, for the present, is 300 to 350 per 100,000 residents. We have not determined a base for estimating the number of practical nurses needed, nor decided whether this base should be in relation to population or to the number of registered nurses. We believe that we have set in motion a provision for periodic assessment of progress, not in nursing education but in the supply of nursing personnel in the state. Hereafter, information on the registration cards for the Board of Nursing will be transferred to punch cards and a program for tabulation is being set up.

It is in developing this program that we believe cooperative effort among the western states could be very productive.

To set targets for nursing education

Reasonable targets for nursing education have not yet been established by the committee, other than there seems to be need for an associate degree program in Albuquerque and for another one in some other area of the state. At present there is no appropriate educational institution for such a program in Albuquerque, and only one other community which indicates any readiness for an associate degree program.

Enrollment targets for existing schools have not been set by the committee, but by the schools themselves. Additional, but as yet unrefined, efforts at recruitment are being made. The question of who should be responsible for recruitment remains unanswered. Discussion has included possible avenues through which non-nurses could be committed to this effort.

Planning, with the study results as a base

Planning activities to date include: use of a consultant; endorsement of the associate degree program as appropriate for New Mexico; conclusion that additional baccalaureate programs were not advisable at this time; recognition of need for more nurses prepared to fulfill leadership roles; and acceptance as a goal improvement of the ratio of registered nurses to population and to the number of practical nurses.

Copies of the report of the study

Copies of the report of the study, entitled *New Mexico Nursing Needs and Resources: The Situation*, are available from the Bureau of Business Research, University of New Mexico, Albuquerque, at a cost of fifty cents each.

Submitted by
Virginia Crenshaw

OREGON

Eight Oregonians met in Salt Lake City March 25, 1960 to consider how the recommendations in *Nurses for the West* could be implemented in Oregon. It was decided that:

1. Data available in Oregon be compared with those reported in *Nurses for the West*. This was done and subsequently reported at a WCHEN meeting. Although numerically Oregon possesses almost 300 nurses per 100,000 population, the inequities in distribution make the figures misleading.

2. The 1948-50 survey made with the assistance of the Public Health Service should be reviewed. This was done. It was found that projected needs were amazingly accurate. Time has taken care of some of the recommendations, but many phases have never been implemented.

Other beginning steps likewise were of a data-collecting nature. Comments relative to the "seven tasks" set forth in *Nurses for the West*:

1. State's needs and how to meet them. Oregon is not growing as rapidly as some of the other western states, nor is the population as apt to be distributed at the extremes of life. As indicated above, the distribution of nurses is one of concern. Employment opportunities for nurses actually are limited in some communities, particularly where there are institutions of higher learning located in small cities. Nurses whose husbands are enrolled in the university may commute some distance for employment. In contrast to the oversupply, twenty-one out of thirty-six counties have fewer than one hundred nurses, not all of whom are active; in some instances there are as few as two or ten nurses. The Oregon State Board of Nursing appointed a special committee that attempted to instigate a state-wide refresher program but found little interest. Hospitals throughout the state periodically conduct such programs.

2. The nurse-population ratio and the balance between junior college and diploma programs and baccalaureate programs. The junior college movement has only recently received impetus in Oregon. There very likely will be one or more junior college programs established within the next few years.

3. Nursing needs in metropolitan areas. Statistical data are available but this task has not been pursued to any depth.

4. Enrollment targets. All schools of nursing have increased enrollments. New construction at all of the hospitals with which schools of nursing are identified has expanded clinical resources for these schools.

5. Regional Graduate Nursing programs. Available at the University of Oregon School of Nursing.

6. Progress in nursing education. Such assessment is done individually by each school and through group effort under the auspices of the State Board of Nursing.

7. Recruitment programs. These are active throughout the state.

It is difficult to conjecture how much of the above is due to the impact of *Nurses for the West*, but surely the publication provided an impetus. Lack of financing deters progress in implementing all of the tasks.

There currently exists a joint OLN-ONA committee to study nursing needs in Oregon. Evelyn Shattuck, University of Oregon School of Nursing, is the chairman.

This active group has reviewed available data and has utilized consultants in the development of recommendations for action in Oregon.

Submitted by
Lucile Gregerson

UTAH

In response to a recommendation from the Western Interstate Commission for Higher Education through the Western Council on Higher Education for Nurses, the nursing council representatives took the initiative in stimulating state study and coordinating action on the state's nursing education problems. At the Utah State Planning Meeting, representatives from education, hospital administration, medicine, and nursing met in two groups to make recommendations for implementing a state Action Program. Both groups recommended that:

1. The Action Program be established under the Coordinating Council of the Utah State Nurses' Association and the Utah League for Nursing. This group represents organized nurses and others interested in nursing.

2. More current information about nursing and nurses in Utah, and the potential for nursing be available and disseminated.

3. The official representatives to WCHEN present a suggested plan to the Coordinating Council.

The state WCHEN representatives met several times; then presented the following recommendations and plan: that the Coordinating Council assume the responsibility of establishing and supporting an action program that will improve the nursing situation in Utah.

Reports from Sub-Committees

Facilities. Committee members visited Utah State University and L. D. S. Hospital at Logan. There is interest in having a survey done in the local area of all facilities, needs in nursing service and nursing education. M. Sheehan, National League for Nursing, was contacted for help in setting up such a survey.

Refresher Courses. L. D. S. Hospital and Salt Lake County General Hospital sent out 650 letters to unemployed graduate nurses to survey interest and need for such a course. Thirty replied they were interested; only 12 enrolled and 9 nurses of the 12 are now working.

Survey. Statistical data related to the following areas have been collected: 1. Number of faculty in various type programs. 2. Faculty preparation. 3. Number of unfilled positions. 4. Professional nurses in Utah classified by: (a) Field of Practice and Marital Status; (b) Field of Employment and Age; (c) Type of Position and Field of Practice; (d) Type of Position and Marital Status; (e) Activity Status, Marital Status, and Age; (f) County and Field of Employment.

Committee for State Action. This committee has not been active since the chairman resigned in 1962. The E.A.C.T. Section of the Utah State Nurses' Association and the Nursing Education Committee of the Utah League for Nursing completed the preliminary survey to determine the state's nursing needs. When the results from the questionnaires were tabulated, it became evident there was some question concerning the validity and reliability of the tool, and further study is indicated.

Submitted by
Mildred Quinn

WASHINGTON

At the fall meeting 1960, the WCHEN member schools in the State of Washington delegated to the University of Washington the responsibility for carrying out the suggestion in *Nurses for the West* which was concerned with the forming of a broadly representative group of "providers and consumers of nursing service" to begin the task of study and action in relation to nursing education problems at the state level.

The first meeting of the Steering Committee on Action for Nursing (SCAN) was held in December 1960. The committee met periodically during 1961 and 1962. The progress report which was presented at the WCHEN meeting in March 1961 outlined SCAN's objectives and proposed procedure for stimulating state-wide interest in nursing education.

Although it is impossible to demonstrate a casual relationship between the activities of the SCAN group and the evident progress which has gone on in the State of Washington, it seems reasonable to note that SCAN served its purpose in helping to identify problems and to focus interest on their solution. Since 1962, health organizations, faculties in nursing, and consumer groups have all continued to work toward those goals as they were set forth in the 1961 Progress Report.

For example, members of SCAN were involved in the *Questionnaire Study on Registered Nurses in the State of Washington.*[1] That study was sponsored by the Washington State League for Nursing with Alice Mickelwait serving as chairman. Its findings have been extremely helpful to both health organizations and schools of nursing in planning for the future.

The Spokane League for Nursing has just completed (1964) a survey of registered nurses in the eastern part of the state in relation to their interest in continuing formal study toward the baccalaureate degree.

The development of nursing programs in Community Colleges in Washington State is proceeding in an orderly fashion. Five departments of nursing have been initiated since 1961. Members of the University of Washington School of Nursing faculty are serving on their advisory and planning committees.

Senior university schools of nursing have been asked for advisory help in the planning of new baccalaureate programs in both private and state collegiate institutions.

Faculties of schools of nursing in the state are continuing to work together in the cooperative planning for best use of available clinical facilities. New approaches to the use of health agencies are being tried out.

In 1963, a conference sponsored by the Washington State Hospital Association and the Washington State Hospital Education and Research Foundation brought together representatives of nursing, medicine, hospital administration, and the public to discuss the nurse shortage.

Opportunities for continuing education for the practicing nurse have increased greatly during the past 5 years. There is increasing and healthy diversity in the organizations which sponsor the conferences. Whereas ten years ago most of the programs were conducted by schools of nursing, today a variety of organizations participates in this aspect of nursing education. For example, the Washington State Nurses' Association has offered a series designed to improve the practicing nurse's professional competence. The American College of Surgeons included a program for nurses at its Sectional Meeting in 1965.

At present, recruiting activities have been centralized to a large extent. The Washington State Hospital Education and Research Foundation has initiated a program which is already showing results.

In other words, although much remains to be done, citizens in the State of Washington have moved from the planning stage and are actively involved in the development of programs, and in the solution of some of our most pressing problems.

Report prepared by:
Dorothy Tolbert, Washington State
Hospital Education and Research
Foundation
Katherine Hoffman, Professor and
Assistant Dean, Nursing
University of Washington

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[1] Report of a Questionnaire Study on Registered Nurses in the State of Washington (Olympia, Wash.: State Board for Vocational Education, 1961).

WYOMING

The Committee on Nurses for Wyoming is comprised of representatives from the Wyoming League for Nursing, the Wyoming Nurses' Association, the Wyoming Hospital Association, the Wyoming State Board of Nursing, and the Division of Nursing of the Wyoming Department of Public Health. The representative to the Western Council on Higher Education for Nursing from the University of Wyoming serves as chairman. During the five years, 1960 through 1964, this group attended fifteen formal meetings and held numerous telephone and other informal conferences.

The first task undertaken was the up-dating of the data relevant to Wyoming from *Nurses for the West.* The State Board of Nursing revised the questionnaire accompanying license renewal forms of both registered and practical nurses, and tabulated the data thus secured, and the University of Wyoming assumed responsibility for maintenance of information concerning professional nursing education in the state.

One of the major tasks accomplished was the "Study of Mobility Patterns of Professional Nurses in Wyoming, 1960-61," carried out in July, 1962, in cooperation with the Research and Resources Branch, Division of Nursing, Public Health Service, U. S. Department of Health, Education, and Welfare. Principal costs were met by contributions from the Wyoming Hospital Association, the Wyoming League for Nursing, the Wyoming Nurses' Association, the Wyoming State Board of Nursing, and the University of Wyoming College of Nursing. Data were coded and tabulated by the Research and Resources Branch, and the report was written by Mrs. Evelyn G. Clark Teckemeyer, Nurse Consultant, Division of Nursing. Position and employing agency or institution mobility of employed registered nurses was depicted, as well as geographic mobility. Copies of the study report were distributed to all hospitals and to professional organizations within the state. This study provided information regarding nursing and the specific problems of nursing in Wyoming, which will be of value in future statewide planning.

As a follow-up to the mobility study, data were collected for two one-year periods concerning nurses employed by hospitals of the state. The full-time equivalent of 547 registered nurses were employed in Wyoming's hospitals on July 1, 1963, and 571 on July 1, 1964—and reports indicated that 204 additional full-time and 44 additional part-time registered nurse employees were needed to provide the quality of service deemed desirable. The Director of the Division of Public Health Nursing, Wyoming Department of Public Health, prepared estimates of the number of public health nurses needed in the state which revealed a deficit of public health nurses.

Organizations represented on the committee assumed major responsibility for specific tasks and functions related to nursing in the state. The Wyoming League expanded its activities related to recruitment of students, the League and the Wyoming Nurses' Association assumed joint responsibility for leadership of Future Nurses' Clubs in the high schools of the state, and the Nurses' Association encouraged refresher courses, offered by local hospitals, for nurses interested in return to active practice. Each member of the committee assumed responsibility for publicizing WCHEN Continuation Education Conferences available to registered nurses employed full-time in leadership positions.

Wyoming was the first state in the nation to provide collegiate education for all of its students of nursing when the State Legislature passed the enabling act in 1951. The certificate option in Wyoming's baccalaureate program is a unique feature. The student electing this three-academic-year program has the privilege of completing the fourth academic year and earning the baccalaureate degree at some future time. No associate degree programs have been established in Wyoming. Two practical nursing programs receive financial assistance from the Division of Vocational Education, Wyoming Department of Education.

Four follow-up studies of graduates of the College of Nursing, University of Wyoming, indicate that approximately 70 percent of the graduates accept their first positions within the state.

Returns from a 1965 survey of beginning staff nurse salaries paid by hospitals of the state, with responses received from approximately 60 percent of the hospitals, indicate that these salaries are inadequate to attract nurses with families back into careers.

The Committee on Nurses for Wyoming expects to continue its activities. When the next survey of nursing needs and resources of the region is available, the committee will review its goals and priorities, and plan a continued program of action.

Submitted by,
Amelia Leino, Committee Chairman
Barbara Goetz, Recorder for the
Committee

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APPENDIX B

SUPPORTING STATISTICAL TABLES

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TABLE 1

Population Growth in the United States, the West, and the Thirteen Western States, 1957 to 1962

Area	Estimated Population in Thousands		Change as Percent of 1957 Population
	1957	1962	
United States	171,187	185,822	+ 8.5
The West	25,860	30,194	+16.8
Alaska	231	242	+ 4.8
Arizona	1,125	1,486	+32.1
California	14,264	17,029	+19.4
Colorado	1,664	1,893	+13.8
Hawaii	584	693	+18.7
Idaho	642	700	+ 9.1
Montana	667	697	+ 4.5
Nevada	260	350	+34.6
New Mexico	847	997	+17.7
Oregon	1,712	1,807	+ 5.5
Utah	826	958	+15.9
Washington	2,724	3,010	+10.5
Wyoming	314	332	+ 5.7

Source of Population Estimates:
U.S. Bureau of the Census, **Statistical Abstract of the United States: 1964** (Eighty-fifth Edition) Washingon, D.C., 1964, Table no. 8, p. 11.

TABLE 2

Daily Average Patient Census in Hospitals of the United States, the West, and the Thirteen Western States, 1957 and 1962, with Change Expressed as Percent of 1957 Figure

Area	Daily Average Patient Census		Change as Percent of 1957 Figure
	1957[1]	1962[2]	
United States	1,320,309	1,406,818	+ 6.6
The West	177,889	183,189	+ 2.9
Alaska	1,442	1,056	−26.8
Arizona	6,230	6,920	+11.1
California	104,194	109,689	+ 5.3
Colorado	14,082	14,947	+ 6.1
Hawaii	4,658	5,086	+ 9.2
Idaho	2,571	2,548	− 0.9
Montana	4,462	4,268	− 4.3
Nevada	1,377	1,776	+28.9
New Mexico	3,978	4,403	+10.7
Oregon	10,887	9,351	−14.1
Utah	3,649	3,682	+ 0.9
Washington	17,461	16,477	− 5.6
Wyoming	2,898	2,986	+ 0.3

[1] U.S. Bureau of the Census, **Statistical Abstract of the United States: 1959** (Eightieth Edition) Washington, D.C., 1959, Table 91, p. 77.

[2] U.S. Bureau of the Census, **Statistical Abstract of the United States: 1964** (Eighty-fifth Edition) Washington, D.C., 1964, Table No. 92, p. 76.

TABLE 3

REGISTERED NURSE-POPULATION RATIOS, THE UNITED STATES, THE WEST, AND THE THIRTEEN WESTERN STATES, 1957 AND 1962, WITH CHANGE EXPRESSED AS A PERCENT OF REGISTERED NURSES PER 100,000 POPULATION IN 1957

AREA	REGISTERED NURSES PER 100,000 POPULATION 1957[a]	1962[b]	CHANGE AS PERCENT OF 1957 FIGURE
The United States	261	298	+14.2
The West	275	324*	+17.8
Alaska	260	288	+10.8
Arizona	271	335	+23.6
California	269	327	+21.6
Colorado	338	372	+10.1
Hawaii	305	289	− 5.2
Idaho	222	276	+24.3
Montana	332	350	+ 5.4
Nevada	297	263	−11.4
New Mexico	208	214	+ 2.9
Oregon	291	348	+19.5
Utah	201	235	+16.9
Washington	297	338	+13.8
Wyoming	300	325	+ 8.3

*Computed from:
Number of employed nurses—**The Nation's Nurses** (New York: American Nurses Association, 1965) Table 2A, p. 24, and **Statistical Abstract of the United States** (Eighty-fifth edition) (Washington, D.C.: U.S. Bureau of the Census, 1964) Table 8, p. 11.

Sources:

[a] **Nurses for the West** (Boulder, Colo.: Western Interstate Commission for Higher Education, 1959) Tables 2 and 3, p. 72, and state tables, pp. 94 and 98.

[b] **The Nation's Nurses** (New York: American Nurses Association, 1965) Table 2A, p. 24.

TABLE 4

POPULATION OF THE UNITED STATES, THE WEST, AND THE INDIVIDUAL THIRTEEN WESTERN STATES, 1960, AND PROJECTED POPULATION OF THOSE AREAS IN 1970, 1976, AND 2000

	POPULATION (IN THOUSANDS)				PROJECTED POPULATION WITH 1960 AS 100		
AREA	1960[a]	1970[b]	1976[a]	2000[a]	1970	1976	2000
The United States	179,323	208,256	230,019	350,477	116	128	195
The West	28,053	36,804	41,134	69,627	131	147	248
Alaska	226	273	322	603	121	142	267
Arizona	1,302	2,102	2,144	3,859	161	165	296
California	15,717	21,574	23,744	41,272	137	151	263
Colorado	1,754	2,139	2,580	4,101	122	147	234
Hawaii	633	836	881	1,369	132	139	216
Idaho	667	786	828	1,221	118	124	183
Montana	675	776	908	1,351	115	135	200
Nevada	285	391	523	929	137	184	326
New Mexico	951	1,282	1,255	2,084	135	132	219
Oregon	1,769	1,888	2,415	3,920	107	137	222
Utah	891	1,081	1,297	2,116	121	146	237
Washington	2,853	3,300	3,844	6,224	116	135	218
Wyoming	330	376	393	578	114	119	175

[a] Outdoor Recreation Review Commission, **Projections to the Years 1976 and 2000; Economic Growth, Population, Labor Force and Leisure, and Transportation,** (Washington: The Commission, 1962) Table A-2, pp. 5-6.

[b] Henry S. Shyrock, "Recent and Future Trends in Our Population", (prepared for paper presented at annual meeting, Western Branch, American Public Health Association, Phoenix, Arizona, May 29, 1963), Series III-1 figures utilized.

TABLE 5

Number of Registered Nurses to be Employed in 1970, 1976, and 2000 to Maintain 1962 Ratio, and at 400 Per 100,000 Residents in 1970, 1976, and 2000—in United States, the West, and the Thirteen Western States

Area	Number of Employed RN's	At 1962 Ratio[b]			At 400 Employed RN's Per 100,000 Projected Population		
	1962[a]	1970	1976	2000	1970	1976	2000
The United States	532,118	620,585	685,400	1,044,192	833,024	920,076	1,401,908
The West	93,343	119,232	133,164	225,591	147,216	164,536	278,508
Alaska	683	786	927	1,736	1,092	1,288	2,412
Arizona	4,896	7,035	7,182	12,928	8,408	8,576	15,436
California	52,151	70,534	77,629	134,959	86,296	94,976	165,088
Colorado	6,825	7,924	9,597	15,256	8,556	10,320	16,404
Hawaii	1,974	2,399	2,543	3,956	3,344	3,524	5,476
Idaho	1,913	2,169	2,285	3,091	3,144	3,312	4,884
Montana	2,412	2,716	3,178	4,729	3,104	3,632	5,404
Nevada	888	1,026	1,375	2,443	1,564	2,092	3,716
New Mexico	2,080	2,739	2,685	4,460	5,128	5,020	8,336
Oregon	6,209	6,542	8,404	13,642	7,552	9,660	15,680
Utah	2,222	2,538	3,047	4,973	4,324	5,188	8,464
Washington	10,024	11,154	12,979	21,037	13,200	15,376	24,896
Wyoming	1,066	1,222	1,277	1,879	1,504	1,572	2,312

[a] The Nation's Nurses, (New York: ANA, 1965) Table A, p. 23.
[b] Computed from Tables 3 and 4 of this book.

TABLE 6

Number of Registered Nurses with Each Type of Academic Preparation in Each of the Thirteen Western States, 1970, if Desired Composition Was Achieved, and at a Nurse-Population Ratio of 400 Per 100,000

State	Number With Each Academic Credential			
	Master's or Doctoral (13%)	Baccalaureate (20%)	Diploma or Assoc. Degree (67%)	Total
Alaska	142	218	732	1,092
Arizona	1,093	1,682	5,633	8,408
California	11,218	17,260	57,818	86,296
Colorado	1,112	1,711	5,733	8,556
Hawaii	435	669	2,240	3,344
Idaho	409	629	2,106	3,144
Montana	404	621	2,079	3,104
Nevada	203	313	1,048	1,564
New Mexico	667	1,026	3,435	5,128
Oregon	982	1,510	5,060	7,552
Utah	562	865	2,897	4,324
Washington	1,716	2,640	8,844	13,200
Wyoming	196	301	1,007	1,504
The West	19,138	29,443	98,635	147,216

TABLE 7

Hospitals, by Classification and by State, Participating in the 1962 American Hospital Association Survey from Which Nursing Service Department Data Was Secured

	Alaska	Ariz.	Calif.	Colo.	Hawaii	Idaho	Mont.	Nev.	N. Mex.	Ore.	Utah	Wash.	Wyo.	All States	
														Total Hospitals	**Percent of Total**
General															
General	15	53	331	62	20	37	50	12	39	57	24	94	20	**814**	**81.7**
General	*1*	*3*	*4*	*2*	—	—	—	—	—	—	*1*	*1*	—	**12**	**1.2**
Hosp. Dept. of Institutions	—	—	10	3	—	1	—	—	—	—	—	2	—	**16**	**1.6**
Hosp. Dept. of Institutions	—	—	*2*	—	—	—	—	—	—	—	—	—	—	**2**	**0.2**
Maternity	—	—	3	2	1	—	—	—	—	—	—	1	—	**8**	**0.8**
Maternity	—	—	*2*	—	—	*1*	—	—	—	—	*1*	—	—	**3**	**0.3**
Eye, Ear, Nose and Throat	—	—	1	—	—	—	—	—	—	—	—	1	—	**2**	**0.2**
Children's General	—	—	4	1	1	—	—	—	—	—	1	1	—	**8**	**0.8**
All General Hospitals	16	56	357	70	22	39	50	12	39	57	27	100	20	**865**	**86.9**
Psychiatric															
Psychiatric	—	2	4	2	—	—	—	—	—	—	—	—	—	**8**	**0.8**
Psychiatric	—	*1*	*25*	*4*	*1*	*1*	*1*	—	*3*	*5*	—	*5*	*2*	**48**	**4.8**
Alcoholic or Addictive	—	1	2	—	—	—	—	—	—	1	—	1	—	**5**	**0.5**
Mental Retardation	—	—	*4*	1	1	—	—	—	—	—	—	—	—	**6**	**0.6**
All Psychiatric	—	4	35	7	2	1	1	—	3	6	—	6	2	**67**	**6.7**
Chronic and Long-term															
Tuberculosis	—	1	—	—	—	—	—	—	—	—	—	—	—	**1**	**0.1**
Tuberculosis	*1*	*3*	*14*	*2*	*1*	*1*	*1*	—	*2*	*1*	*1*	*2*	*1*	**30**	**3.0**
Other Specialty*	—	—	2	—	—	—	—	—	—	—	—	—	—	**2**	**0.2**
*Other Specialty**	—	—	*5*	*2*	*2*	—	—	—	—	*1*	—	—	—	**10**	**1.0**
Chronic Disease & Convalescent	—	—	*7*	—	*1*	—		—	—	—	*1*	—	—	**9**	**0.8**
Children's Orthopedic	—	—	1	—	—	—	1	—	—	—	—	—	—	**2**	**0.2**
Children's Orthopedic	—	—	*2*	—	*1*	—	—	—	*1*	*1*	*1*	*1*	—	**7**	**0.7**
Children's Other Specialty*	—	—	—	—	—	—	1	—	—	—	—	—	—	**1**	**0.1**
*Children's Other Specialty**	—	—	*1*	*1*	—	—	—	—	—	—	—	—	—	**2**	**0.2**
All Chronic and Long-term	1	4	32	5	5	1	3	—	3	3	3	3	1	**64**	**6.4**
Total of Hospitals	**17**	**64**	**424**	**82**	**29**	**41**	**54**	**12**	**45**	**66**	**30**	**109**	**23**	**996**	
Percent Distribution	**1.7**	**6.4**	**42.7**	**8.2**	**2.9**	**4.1**	**5.4**	**1.2**	**4.5**	**6.6**	**3.0**	**11.0**	**2.3**		**100.0**

Regular type indicates short-term
Italic type indicates long-term

*Most institutions listed as "rehabilitation."

TABLE 8

STAFFING OF NURSING SERVICE DEPARTMENTS OF HOSPITALS IN THE THIRTEEN WESTERN STATES, WEEK MARCH 11 THROUGH MARCH 18, 1962, BY CLASSIFICATION OF WORKER AND TYPE OF HOSPITAL, IN NUMBER AND PERCENT OF TOTAL

CLASSIFICATION OF WORKER	TYPE HOSPITAL							
	GENERAL[1]		PSYCHIATRIC AND MENTALLY RETARDED[2]		CHRONIC AND LONG-TERM[3]		ALL HOSPITALS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
REGISTERED NURSES								
Full-time	35,322	35.2	2,657	14.3	1,659	28.9	39,638	31.8
Part-time	9,685	9.6	168	0.9	247	4.3	10,100	8.1
Sub-total	45,007	44.8	2,825	15.2	1,906	33.2	49,738	39.9
PRACTICAL NURSES								
Full-time	13,979	13.9	3,331	17.9	842	14.7	18,152	14.6
Part-time	1,489	1.5	15	*	27	0.5	1,531	1.2
Sub-total	15,468	15.4	3,346	18.1	869	15.1	19,683	15.8
AUXILIARY WORKERS								
Full-time	32,301	32.2	11,949	64.7	2,692	46.7	46,942	37.7
Part-time	3,756	3.7	101	0.5	119	2.1	3,976	3.2
Sub-total	36,057	35.9	12,050	65.1	2,811	48.9	50,918	40.9
CLERICAL WORKERS								
Full-time	3,306	3.3	289	1.6	145	2.5	3,740	2.9
Part-time	607	0.6	11	*	16	0.3	634	0.5
Sub-total	3,913	3.9	300	1.6	161	2.8	4,374	3.4
ALL WORKERS								
Full-time	84,908	84.5	18,226	98.4	5,338	92.9	108,472	86.9
Part-time	15,537	15.5	295	1.6	409	7.1	16,241	13.1
TOTAL	100,445	100.0	18,521	100.0	5,747	100.0	124,713	100.0

[1] Includes: Short and long-term general, hospital departments of institutions, maternity, E.E.N.T. and children's general.

[2] Includes. Short and long-term psychiatric, alcoholic or addictive and for the mentally retarded.

[3] Includes: Short and long-term hospitals classified as tuberculosis, chronic disease or convalescent, children's orthopedic, and both adult and children's "other specialty."

Source: Survey of Department of Nursing Service Personnel and Professional Nurses in Other Departments of the Hospital, conducted by American Hospital Association, 1962. Data here reported were made available by the Division of Nursing, USPHS.

*Less than 0.1 percent

TABLE 9

REGISTERED NURSES IN NURSING SERVICE DEPARTMENTS OF HOSPITALS IN THE THIRTEEN WESTERN STATES, BY POSITION TITLE, FULL- OR PART-TIME EMPLOYMENT, AND TYPE OF HOSPITAL, IN NUMBER, PERCENT OF REGISTERED NURSES, AND PERCENT OF TOTAL STAFF WITH EACH POSITION TITLE, WEEK MARCH 11 THROUGH MARCH 18, 1962

TYPE HOSPITAL

POSITION TITLE	GENERAL			PSYCHIATRIC AND MENTALLY RETARDED			CHRONIC & LONG-TERM			ALL HOSPITALS		
	NUMBER	PERCENT OF RN'S	PERCENT OF STAFF	NUMBER	PERCENT OF RN'S	PERCENT OF STAFF	NUMBER	PERCENT OF RN'S	PERCENT OF STAFF	NUMBER	PERCENT OF RN'S	PERCENT OF STAFF
DIRECTORS AND ASSISTANTS												
Full-time	1,265	2.8	1.3	147	5.2	0.8	90	4.7	1.6	1,502	3.0	1.2
Part-time	117	0.3	0.1	5	0.2	*	1	0.1	*	123	0.2	0.1
Sub-Total	1,382	3.1	1.4	152	5.4	0.8	91	4.8	1.6	1,625	3.3	1.3
IN-SERVICE EDUCATION												
Full-time	322	0.7	0.3	111	3.9	0.6	34	1.8	0.6	467	0.9	0.4
Part-time	37	*	*	6	0.2	*	2	0.1	*	45	0.1	*
Sub-Total	359	0.8	0.4	117	4.1	0.6	36	1.9	0.6	512	1.0	0.4
SUPERVISORS												
Full-time	3,292	7.3	3.3	311	11.0	1.7	208	10.9	3.6	3,811	7.7	3.1
Part-time	428	0.9	0.4	19	0.7	0.1	21	1.1	0.4	468	0.9	0.4
Sub-Total	3,720	8.3	3.7	330	11.7	1.8	229	12.0	3.9	4,279	8.6	3.4
HEAD NURSES												
Full-time	6,791	15.1	6.8	759	26.9	4.1	471	24.7	8.2	8,021	16.1	6.4
Part-time	567	1.3	0.6	31	1.1	0.2	20	1.1	0.3	618	1.2	0.5
Sub-Total	7,358	16.3	7.3	790	27.9	4.3	491	25.8	8.6	8,639	17.4	6.9
STAFF NURSES												
Full-time	23,652	52.6	23.5	1,329	47.0	7.2	856	44.9	14.9	25,837	51.9	20.7
Part-time	8,536	18.9	8.5	107	3.8	0.6	203	10.7	3.5	8,846	17.8	7.1
Sub-Total	32,188	71.5	32.0	1,436	50.8	7.8	1,059	55.6	18.4	34,683	69.7	27.8
ALL REGISTERED NURSES	45,007	100.0	44.8	2,825	100.0	15.3	1,906	100.0	33.2	49,738	100.0	39.9

*Less than 0.1 percent

Source: Survey of Department of Nursing Service Personnel and Professional Nurses in other departments of the hospital, conducted by American Hospital Association, 1962. Data here reported were made available by the Division of Nursing, USPHS.

TABLE 10

Registered Nurses in Nursing Service Departments of Hospitals in the Thirteen Western States by Unit Responsibility, Full- or Part-time Employment, and Type of Hospital, in Numbers, Percent of Registered Staff, and Percent of Total Staff with Each Unit Responsibility, Week of March 11 Through March 18, 1962.

Unit Responsibility	Type Hospital											
	General			Psychiatric and Mentally Retarded			Chronic and Long-Term			All Hospitals		
	Number	Percent of RN's	Percent of Staff	Number	Percent of RN's	Percent of Staff	Number	Percent of RN's	Percent of Staff	Number	Percent of RN's	Percent of Staff
Administration												
Full-time	4,369	9.7	4.3	488	17.3	2.6	209	10.9	3.6	5,066	10.2	4.1
Part-time	690	1.5	0.7	27	0.9	0.1	25	1.3	0.4	742	1.5	0.6
Sub-total	5,059	11.2	5.1	515	18.2	2.8	234	12.3	4.1	5,808	11.7	4.7
Bedside Patient Care												
Full-time	25,143	55.9	25.1	2,071	73.3	11.2	1,311	68.8	22.8	28,525	57.4	22.9
Part-time	7,918	17.6	7.9	133	4.7	0.7	186	9.8	3.2	8,237	16.6	6.6
Sub-total	33,061	73.5	32.9	2,204	78.1	11.9	1,497	78.5	26.1	36,762	73.9	29.5
Outpatient & Emerg. Room												
Full-time	1,694	3.8	1.7	10	0.4	—	66	3.5	1.1	1,770	3.6	1.4
Part-time	510	1.1	0.5	2	0.07	—	15	0.8	0.3	527	1.1	0.4
Sub-total	2,204	4.9	2.2	12	0.4	0.06	81	4.2	1.4	2,297	4.6	1.8
Operating Room												
Full-time	4,116	9.1	4.1	88	3.1	0.5	73	3.8	1.3	4,277	8.6	3.4
Part-time	567	1.3	0.6	6	0.2	0.03	21	1.1	0.4	594	1.2	0.5
Sub-total	4,683	10.4	4.7	94	3.3	0.5	94	4.9	1.6	4,871	9.8	3.9
All Units												
Full-time	35,322	78.5	35.2	2,657	94.1	14.3	1,659	87.1	28.9	39,638	79.7	31.8
Part-time	9,685	21.5	9.6	168	5.9	0.9	247	12.9	4.3	10,100	20.3	8.1
All Registered Nurses	45,007	100.0	44.8	2,825	100.0	15.3	1,906	100.0	33.2	49,738	100.0	39.9

Source: Survey of Department of Nursing Service Personnel and Professional Nurses in other departments of the hospital, conducted by the American Hospital Association, 1962. Data here reported were made available by the Division of Nursing, USPHS.

TABLE 11

REGISTERED NURSES ASSIGNED TO DEPARTMENTS OTHER THAN NURSING SERVICE IN HOSPITALS OF THE THIRTEEN WESTERN STATES, BY JOB TITLE, TYPE OF HOSPITAL, FULL- OR PART-TIME EMPLOYMENT, IN NUMBER AND PERCENT OF TOTAL WITH EACH JOB TITLE, WEEK OF MARCH 11 THROUGH MARCH 18, 1962.

	TYPE HOSPITAL															
JOB TITLE	GENERAL				*PSYCHIATRIC*				CHRONIC & LONG-TERM				ALL HOSPITALS			
	FULL-TIME		PART-TIME		FULL-TIME		PART-TIME		FULL-TIME		PART-TIME		FULL-TIME		PART-TIME	
	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT
Hospital Administrator or Supt. and Assistants	364	11.3	15	2.9	8	6.3	2	14.3	22	20.8	–	–	394	11.4	17	3.1
Nurse Anesthetists	793	24.6	114	21.7	15	11.8	2	14.3	6	5.7	3	21.4	814	23.6	119	21.6
Nurse Instructors	626	19.4	44	8.4	46	36.3	4	28.6	5	4.7	–	–	677	19.6	48	8.7
Professional Nurses in Central Supply	566	17.6	162	30.9	33	25.9	3	21.4	27	25.5	2	14.3	626	18.1	165	29.9
All Others (Lab., Admitting, X-ray)	873	27.1	190	36.1	25	19.7	3	21.4	46	43.3	9	64.3	944	27.3	202	36.7
Total	3,222	100.0	525	100.0	127	100.0	14	100.0	106	100.0	14	100.0	3,455	100.0	551	100.0

Note: 1. The 3,455 employed full-time equal 8.7 per cent of the 39,638 full-time registered nurses employed by the nursing service department.
2. The 551 employed part-time equal 5.5 per cent of the 10,100 part-time registered nurses employed by the nursing service department.

Source: Survey of Department of Nursing Service personnel and professional nurses in other departments of the hospital, conducted by the American Hospital Association, 1962. Data here reported were made available by Division of Nursing, USPHS.

TABLE 12

PUBLIC HEALTH NURSES EMPLOYED FULL-TIME IN THE THIRTEEN WESTERN STATES AND THE UNITED STATES, COMPARED WITH POPULATION OF THOSE STATES, 1960 AND 1964, WITH CHANGES IN POPULATION, NUMBER OF NURSES, AND POPULATION PER NURSE EXPRESSED AS A PERCENT OF THE 1960 FIGURES.

STATE	1960			1964			CHANGE (1960-1964) AS PERCENT OF 1960 FIGURE		
	POPULATION[1]	NUMBER OF NURSES[2]	POPULATION PER NURSE	POPULATION[1]	NUMBER OF NURSES[2]	POPULATION PER NURSE	POPULATION	NURSES	POPULATION PER NURSE
Alaska	226,167	65	3,479	250,000	66	3,788	+10.5	+ 1.5	+ 8.9
Arizona	1,302,161	304	4,283	1,581,000	407	3,885	+21.4	+33.9	− 9.3
California	15,717,204	3,476	4,521	18,084,000	3,872	4,670	+15.1	+11.4	+ 3.3
Colorado	1,753,947	343	5,114	1,966,000	374	5,257	+12.1	+ 9.1	+ 2.8
Hawaii	632,772	106	5,970	701,000	101	6,941	+10.8	− 4.7	+16.3
Idaho	667,191	89	7,497	692,000	101	6,851	+ 3.7	+13.5	− 8.6
Montana	674,767	72	9,372	705,000	91	7,747	+ 4.5	+26.4	−17.3
Nevada	285,278	50	5,706	408,000	75	5,440	+43.1	+50.0	− 4.7
New Mexico	951,023	204	4,662	1,008,000	202	4,990	+ 5.9	− 0.1	+ 7.1
Oregon	1,768,687	204	8,670	1,871,000	248	7,544	+ 5.8	+21.6	−12.9
Utah	890,627	156	5,709	992,000	169	5,870	+11.4	+ 8.3	+ 2.8
Washington	2,853,124	437	6,529	2,984,000	525	5,684	+ 4.6	+20.1	−12.9
Wyoming	330,066	47	7,023	343,000	58	5,914	+ 3.9	+23.4	−15.8
The West	28,053,014	5,553	5,052	31,585,000	6,289	5,022	+12.6	+13.3	− 0.6
The United States	179,323,175	30,953	5,793	191,334,000	34,656	5,521	+ 6.7	+11.9	− 4.7

Sources: [1] U.S. Bureau of the Census, **Population Estimates**, Series P-25, No. 294, November 5, 1964. Tables 2 and 5.
[2] U.S. Department of Health, Education, and Welfare, **Nurses in Public Health**, January 1964, P.H.S. Publication No. 285 (Washington: U.S. Government Printing Office, 1964), Table 6, p. 10.

TABLE 13

Public Health Nurses Employed Full-time in the Thirteen Western States and the United States Holding or Not Holding One or More College Degrees, by Type of Employing Agency, January 1, 1964.

	Type of Agency								
	State			Local[1]			Board of Education		
State	With Degrees	Without Degrees	Percent of Total with Degrees	With Degrees	Without Degrees	Percent of Total with Degrees	With Degrees	Without Degrees	Percent of Total with Degrees
Alaska	2	0	100.0	37	10	78.7	5	12	29.4
Arizona	5	5	50.0	50	59	45.9	47	162	22.5
California	38	6	86.4	1,232	514	70.6	1,344	735	64.6
Colorado	14	0	100.0	128	95	57.4	96	41	70.1
Hawaii	7	0	100.0	50	43	53.8	1	0	100.0
Idaho	7	1	87.5	17	42	28.8	4	30	11.8
Montana	16	5	76.2	14	37	27.5	8	11	42.1
Nevada	2	0	100.0	17	12	58.6	25	19	56.8
New Mexico	8	2	80.0	28	55	33.7	36	73	33.1
Oregon	11	3	78.6	132	64	67.4	15	25	37.5
Utah	7	4	63.3	57	98	36.7	0	3	0.0
Washington	16	0	100.0	208	129	61.7	119	53	69.2
Wyoming	4	0	100.0	11	8	57.9	9	23	28.1
The West	137	26	84.1	1,981	1,166	62.9	1,709	1,187	59.1
The United States	776	231	77.1	7,136	13,222	35.1	5,734	7,305	43.9

Source: **Nurses in Public Health**, P.H.S. Publication No. 285 (Washington: Dept. of Health, Education, and Welfare, 1964) Table 31, p. 36. Source omitted 252 nurses for whom education was not reported.

[1] Other than Board of Education.

TABLE 14

PUBLIC HEALTH NURSES AND SUPPLEMENTAL PERSONNEL EMPLOYED FULL-TIME AND PART-TIME IN THE THIRTEEN WESTERN STATES AND THE UNITED STATES, JANUARY 1, 1964.

STATE	NUMBER EMPLOYED									PERCENT OF TOTAL EMPLOYED FULL-TIME		
	FULL-TIME			PART-TIME			TOTAL					
		SUPPLEMENTAL			SUPPLEMENTAL			SUPPLEMENTAL			SUPPLEMENTAL	
	P.H.N.	R.N.	L.P.N.	P.H.N.	R.N.	L.P.N.	P.H.N.	R.N.	L.P.N.	P.H.N.	R.N.	L.P.N.
Alaska	66	1	0	1	0	0	67	1	0	98.5	100.0	-
Arizona	407	18	0	13	0	0	420	18	0	96.9	100.0	-
California	3,872	0	0	168	0	0	4,040	0	0	95.8	-	-
Colorado	374	23	10	23	1	0	397	24	10	94.2	95.8	100.0
Hawaii	101	0	6	1	0	0	102	0	6	99.1	-	100.0
Idaho	101	0	2	5	0	0	106	0	2	95.3	-	100.0
Montana	91	0	0	6	0	0	97	0	0	93.8	-	-
Nevada	75	4	2	4	0	0	79	4	2	94.9	100.0	100.0
New Mexico	202	6	2	0	0	0	202	6	2	100.0	100.0	100.0
Oregon	248	10	0	22	4	1	270	14	1	91.9	71.4	0.0
Utah	169	0	1	7	0	0	176	0	1	96.1	-	100.0
Washington	525	29	7	34	1	0	559	30	7	93.9	96.7	100.0
Wyoming	58	1	0	12	0	0	70	1	0	82.9	100.0	-
The West	6,289	92	30	296	6	1	6,585	98	31	95.5	93.9	96.8
The United States	34,656	402	540	2,214	297	29	36,870	699	569	93.9	57.5	94.9

COMPOSITION OF GROUP OF FULL-TIME EMPLOYEES

	THE WEST PERCENT	THE UNITED STATES PERCENT
P.H.N.	98.1	97.4
R.N.	1.4	1.1
L.P.N.	0.5	1.5

COMPOSITION OF GROUP OF PART-TIME EMPLOYEES

	THE WEST PERCENT	THE UNITED STATES PERCENT
P.H.N.	97.7	87.2
R.N.	1.9	11.7
L.P.N.	0.4	1.1

Source: *Nurses in Public Health, January 1964*, P.H.S. Publication No. 285 (Washington: Dept. of Health, Education, and Welfare, 1964), Table 5, p. 8.

TABLE 15

Responses of State Nurses' Associations Concerning Salary Differentials for Registered Nurses Based upon Type of Preparation

Question: Do you know of any hospitals in your state offering higher beginning salaries to basic baccalaureate than to diploma or associate degree graduates?

State	Response
Alaska	No record.
Arizona	No.
California	Yes.
Colorado	No.
Hawaii	Yes.
Idaho	Yes.
Montana	No.
Nevada	No response received.
New Mexico	No.
Oregon	Yes.
Utah	Yes.
Washington	No.
Wyoming	No.

Source: Responses to mailed questionnaires to Nurses' Associations of the thirteen western states, November, 1965.

TABLE 16

Monthly Salary Ranges Currently Offered in the West to New Graduates of Pre-service Nursing Education Programs by State and Type of Program, and Salary Levels Recommended by the State Nurses' Association

State	Baccalaureate	Associate Degree	Diploma	Practical Nursing	Recommended Salaries for Registered Nurses[1]
Alaska	$430 - $510	$430 - $510	$430 - $510	$332 - $415	$450 - all types preparation
Arizona	$335 - $365	$335 - $365	$335 - $365	$225 - $245	$360 - all types preparation
California					
Governmental	$476 - $545	$476 - $488	$476 - $488	no information	$481 - all types preparation
Non-Governmental	$390 - $420	$390 - $420	$390 - $420	no information	$481 - all types preparation
Colorado	$325 - $450	$325 - $450	$325 - $450	no information	$400 - all types preparation
Hawaii	$385 - $400	$365 - $400	$385 - $400	no information	none established
Idaho	$335 - $400	$335 - $400	$335 - $400	no information	$375 - all types preparation
Montana	$263 - $425	$263 - $425	$263 - $425	no information	established - not reported
Nevada	No response received				
New Mexico	$370 - $400	$350 - $400	$350 - $400	$260	$400 - all types preparation
Oregon	$360 - $465	$360 - $427	$360 - $427	$265.20 - $300.02	$380 - all types preparation
Utah	$400 - $450	$375 - $431.25	$375 - $431.25	$300 - $345	none established
Washington	$407 - $460	$407 - $460	$407 - $460	no information	$407 - $460 - same for all types preparation
Wyoming	$290 - $385	$290 - $385	$290 - $385	no information	$300 - $320 - same for all types preparation
Average[2]	$355 - $414	$351 - $406	$353 - $406	$263 - $288	

[1] Recommended salaries in effect December 1965. Some states report anticipated change in these recommendations after January 1, 1966.

[2] Obtained by taking the arithmetic mean of the maximum and minimum for each state. Since larger numbers of nurses are employed in beginning positions in some states than in others, this should not be interpreted as an average range for all nurses in beginning positions in the West.

Source: Responses to mailed questionnaire to Nurses' Associations of the thirteen western states, November, 1965.

TABLE 17

NUMBER OF QUESTIONNAIRES MAILED BY STATE AND TYPE OF NURSING EDUCATION PROGRAM IN THE THIRTEEN WESTERN STATES, AND NUMBER OF USABLE AND NON-USABLE RESPONSES, JANUARY 1965.

STATE	PRACTICAL QUESTIONNAIRES			DIPLOMA QUESTIONNAIRES			ASSOCIATE DEGREE QUESTIONNAIRES			BACCALAUREATE QUESTIONNAIRES			BACCALAUR. & MASTER'S[2] QUESTIONNAIRES			TOTAL QUESTIONNAIRES		
	MAILED	USABLE	NON-USABLE[1]	MAILED	USABLE	NON-USABLE[1]	MAILED	USABLE	NON-USABLE[1]	MAILED	USABLE	NON-USABLE[1]	MAILED	USABLE	NON-USABLE[1]	MAILED	USABLE	NON-USABLE[1]
Alaska	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—
Arizona	3	2	1	3	3	—	2	2	—	2	2	—	—	—	—	10	9	1
California	56	47	2	20	18	—	29	28	—	12	12	—	4[2]	4[2]	—	121	109	2
Colorado	14	13	—	7	7	—	2	2	—	2	2	—	1	1	—	26	25	—
Hawaii	1	1	—	2	2	—	1	1	—	1	1	—	—	—	—	5	5	—
Idaho	19	13	1	1	1	—	2	2	—	1	1	—	—	—	—	23	17	1
Montana	7	7	—	5	4	—	—	—	—	—	—	—	1	1	—	13	12	—
Nevada	8	7	—	—	—	—	1	1	—	1	1	—	—	—	—	10	9	—
New Mexico	6	5	—	1	1	—	—	—	—	1	1	—	—	—	—	8	7	—
Oregon	10	10	—	3	3	—	—	—	—	1	1	—	—	—	—	15	15	—
Utah	2	2	—	3	3	—	2	2	—	1	1	—	1	1	—	9	9	—
Washington	24	21	—	10	10	—	5	5	—	4	4	—	1	1	—	44	41	—
Wyoming	1	0	—	—	—	—	—	—	—	1	1	—	1	1	—	2	1	—
Total	152	129	4	55	52	0	44	43	0	27	27	0	9	9	0	287	260	4
Percent of total mailed, usable responses		84.2			94.5			97.7			100.0			100.0			90.6	

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[1] Includes questionnaire forms returned blank and those received too late for tabulation.

[2] One school offers master's program, but not baccalaureate.

Note: Questionnaire forms were mailed to all schools listed in: State-Approved Schools of Practical Nursing, 1964, New York: N.L.N., 1964, and State-Approved Schools of Professional Nursing, 1964, New York: N.L.N., 1964. Mailing also included any schools listed by state boards of nursing and not included in the above publications. There is evidence that six practical nursing programs and one diploma program, to which questionnaires were mailed, were not in operation at the time of the survey.

TABLE 18

PERIOD OF TIME SINCE INITIAL ADMITTANCE OF STUDENTS TO THE SCHOOL AND JANUARY 1965, BY TYPE OF PROGRAM

PERIOD OF TIME	PRACTICAL		DIPLOMA		ASSOCIATE DEGREE		BACCALAUREATE		ALL PROGRAMS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
0 through 2 years	21	16.3	-	-	11	25.6	-	-	32	12.4
3 through 5 years	23	17.8	1	1.9	14	32.6	2	5.7	40	15.4
6 through 9 years	22	17.1	-	-	13	30.2	7	20.0	42	16.2
10 or more years	63	48.8	51	98.1	5	11.6	26	74.3	145	56.0
Total	129	100.0	52	100.0	43	100.0	35	100.0	259	100.0

Note: The one school offering only a master's program is not included.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 19

PERIOD OF TIME SINCE INITIAL ADMITTANCE OF STUDENTS TO PROGRAM AS PRESENTLY CONSTITUTED AND JANUARY 1965, BY TYPE OF PROGRAM

PERIOD OF TIME	PRACTICAL		DIPLOMA		ASSOCIATE DEGREE		BACCALAUREATE		ALL PROGRAMS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
0 through 2 years	32	24.8	16	30.8	13	30.2	3	8.6	64	24.7
3 through 5 years	35	27.1	9	17.3	14	32.7	4	11.4	62	23.9
6 through 9 years	24	18.6	7	13.5	13	30.2	11	31.4	55	21.2
10 or more years	38	29.5	20	38.4	3	6.9	17	48.6	78	30.2
Total	129	100.0	52	100.0	43	100.0	35	100.0	259*	100.0

*Does not include the one school offering only a master's program.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 20

STUDENTS ADMITTED TO EDUCATIONAL PROGRAMS IN NURSING IN THE THIRTEEN WESTERN STATES, 1959-1964, BY TYPE OF PROGRAM AND YEAR, IN NUMBER AND PERCENT OF TOTAL ADMITTED TO EACH TYPE OF PROGRAM

TYPE OF PROGRAM	1959		1960		1961		1962		1963		1964		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Leading to R.N. Licensure														
Diploma	2,216	28.9	2,308	28.5	2,183	25.3	2,240	23.9	2,114	19.7	2,132	18.5	13,193	23.6
Associate Degree	585	7.7	782	9.7	976	11.3	1,197	12.8	1,614	15.0	1,804	15.6	6,958	12.4
Baccalaureate*	1,833	23.9	2,034	25.1	2,098	24.3	2,374	25.4	2,552	23.8	2,980	25.8	13,871	24.8
Subtotal	**4,634**	**60.5**	**5,124**	**63.3**	**5,257**	**60.9**	**5,811**	**62.1**	**6,280**	**58.5**	**6,916**	**59.9**	**34,022**	**60.8**
Practical Nursing	3,009	39.5	2,976	36.7	3,372	39.1	3,543	37.9	4,452	41.5	4,621	40.1	21,973	39.2
Total	**7,643**	**100.0**	**8,100**	**100.0**	**8,629**	**100.0**	**9,354**	**100.0**	**10,732**	**100.0**	**11,537**	**100.0**	**55,995**	**100.0**

*Figures reflect pre-service students only.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 21

STUDENTS GRADUATED FROM EDUCATIONAL PROGRAMS IN NURSING IN THE THIRTEEN WESTERN STATES, 1959-1964, BY TYPE PROGRAM AND YEAR, IN NUMBER AND PERCENT OF TOTAL FROM EACH TYPE PROGRAM

TYPE OF PROGRAM	1959		1960		1961		1962		1963		1964		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Leading to R.N. Licensure														
Diploma	1,377	31.2	1,327	30.2	1,353	29.7	1,360	27.9	1,434	26.4	1,355	23.2	8,206	27.9
Associate Degree*	271	6.1	371	8.4	441	9.7	492	10.1	656	12.1	846	14.5	3,077	10.4
Baccalaureate**	725	16.4	726	16.5	685	15.0	781	16.0	833	15.3	867	14.9	4,617	15.6
Sub-total	**2,373**	**53.7**	**2,424**	**55.1**	**2,479**	**54.4**	**2,633**	**54.0**	**2,923**	**53.8**	**3,068**	**52.6**	**15,900**	**53.9**
Practical Nursing	2,042	46.3	1,975	44.9	2,074	45.6	2,246	46.0	2,510	46.2	2,769	47.4	13,616	46.1
Total	**4,415**	**100.0**	**4,399**	**100.0**	**4,553**	**100.0**	**4,879**	**100.0**	**5,433**	**100.0**	**5,837**	**100.0**	**29,516**	**100.0**

*In two schools, students admitted to the baccalaureate program may elect to become candidates for the associate degree. Such students were included as admitted to baccalaureate programs, and as graduates from associate degree programs.
**Figures reflect pre-service students only.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 22

ENROLLMENT IN EDUCATIONAL PROGRAMS IN NURSING IN THE THIRTEEN WESTERN STATES, JANUARY 1965, BY TYPE OF PROGRAM IN NUMBER AND IN PERCENT OF TOTAL ENROLLED IN EACH TYPE PROGRAM

TYPE OF PROGRAM	NUMBER ENROLLED	PERCENT OF TOTAL ENROLLED
Leading to R.N. Licensure		
Diploma	4,838	27.3
Associate Degree	2,742	15.5
Baccalaureate*	6,506	36.7
Sub-total	**14,086**	**79.5**
Practical Nursing	3,623	20.5
Total	**17,709**	**100.0**

*In some colleges and universities, students enroll in the nursing program as freshmen; in others, students are not admitted to the nursing program until the sophomore or junior year. The figure reported here is the total reported as enrolled in the school or college of nursing. It includes freshmen and sophomores in some, but not all colleges and universities.

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 23

MAXIMUM ENROLLMENT POSSIBLE WITH THE FACULTY, CLINICAL FACILITIES, AND OTHER RESOURCES IN USE IN JANUARY 1965, COMPARED WITH ACTUAL ENROLLMENT

TYPE OF PROGRAM	CURRENT ENROLLMENT	POTENTIAL ENROLLMENT	STUDENT SPACES AVAILABLE	STUDENT SPACES AS PERCENT OF CURRENT ENROLLMENT
Leading to Licensure as R.N.				
Diploma	4,838	6,156	1,318	27.2
Associate Degree	2,742	3,521	779	28.4
Baccalaureate	6,506	7,522	1,016	15.6
Sub-total	**14,086**	**17,199**	**3,113**	**22.1**
Practical Nursing	3,623	4,407	784	21.6
Total	**17,709**	**21,606**	**3,897**	**22.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 24

FACTORS VIEWED AS INHIBITING ACHIEVEMENT OF MAXIMUM ENROLLMENT OF PRE-SERVICE STUDENTS IN NURSING PROGRAMS OF THE THIRTEEN WESTERN STATES BY TYPE OF PROGRAM, IN NUMBER AND PERCENT OF RESPONDING SCHOOLS REPORTING EACH FACTOR

FACTOR	PRACTICAL		DIPLOMA		ASSOCIATE DEGREE		BACCALAUREATE		ALL PROGRAMS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Lack of qualif. applicants	40	31.0	15	28.8	14	32.6	14	40.0	83	32.1
Unpredict. attrition rate	22	17.1	11	21.2	10	23.2	12	34.3	55	21.1
Lack of qualified faculty	9	6.9	9	17.3	12	27.9	2	5.7	32	12.4
Limit. fin. sup. of school	4	3.1	3	5.8					7	2.7
Cost to student—lack of scholarship funds	6	4.7	2	3.8	2	4.7	13	37.1	23	8.9
Limited classroom and/or housing space	1	0.8	10	19.2	2	4.7	5	14.3	18	6.9
Limit. clinical facilities	11	8.5	8	15.4	6	13.9	4	11.4	29	11.2
Lack of space in supporting courses	—	—	3	5.8	1	2.3	—	—	4	1.5
Restriction on women or out-of-state students	—	—	—	—	—	—	2	5.7	2	0.8
Transitional period of program	3	2.3	4	7.7	—	—	—	—	7	2.7
School not NLN accredited	—	—	2	3.8	—	—	—	—	2	0.8
Lack of community understanding and support	3	2.3	—	—	5	11.6	2	5.7	10	3.9
Schools reporting enrollment at maximum	34	26.4	8	15.4	8	18.6	10	28.6	60	23.2
Number of responding schools	129	—	52	—	43	—	35	—	259	—

Note: This represents a tabulation of responses to an open-ended question. Since some schools reported no factors, and others several, percents do not total 100.0.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 25

CHANGES UNDER CONSIDERATION IN RESPONDING NURSING PROGRAMS OF THE THIRTEEN WESTERN STATES, IN NUMBER OF SCHOOLS AND PERCENT OF RESPONDENTS CONSIDERING EACH CHANGE

AREA AND DIRECTION OF CONTEMPLATED CHANGE	PRACTICAL		DIPLOMA		ASSOCIATE DEGREE		BACCALAUREATE		ALL PROGRAMS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
LENGTH OF PROGRAM										
Shorten time span	3	2.3	7	13.5	8	18.6	1	2.9	19	7.3
Lengthen time span	5	3.9	—	—	2	4.7	3	8.6	10	3.8
DISCONTINUE PROGRAM										
Closure planned	3	2.3	3	5.8	1*	2.3	—	—	7	2.7
Would close if another type program could utilize facilities	—	—	2	3.8	—	—	—	—	2	0.8
Will close if present source of financial support becomes unavailable	4	3.1	—	—	—	—	—	—	4	1.5
MAXIMUM ENROLLMENT										
Plan to increase	25	19.4	11	21.2	4	9.3	9	25.7	49	18.8
Will limit (includes higher admission standards)	3	2.3	1	1.9	2	4.7	1	2.9	7	2.7
Controlled by financial resources	—	—	2	3.8	—	—	3	8.6	5	1.9
Clinical resources a controlling factor	—	—	2	3.8	1	2.3	—	—	3	1.2
Housing or classroom facilities controlling factor	—	—	3	5.8	—	—	2	5.7	5	1.9
Faculty avail. cont. factor					3	6.9	3	8.6	6	2.2
Plan accel. student recruit.	—	—	6	11.5	3	6.9	4	11.4	13	5.1
Increase student fin. aid	—	—	—	—	—	—	3	8.6	3	1.2
CURRICULUM CHANGES										
Cont. eval. and evolution	19	14.7	8	15.4	11	25.6	11	31.4	49	18.8
Add or strengthen gen. ed.	—	—	5	9.6	—	—	—	—	5	1.9
Add or strengthen supporting courses	—	—	1	1.9	1	2.3	—	—	2	0.8
Add or streng. nurs. cont.	—	—	1	1.9	2	4.7	—	—	3	1.2
Redesigning curriculum	14	10.9	1	1.9	1	2.3	11	31.4	27	10.4
Delay intro. of nursing courses	—	—	—	—	—	—	2	5.7	2	0.8
Discontinue affiliations	—	—	3	5.8	—	—	2	5.7	5	1.9
USE OF CLINICAL FACILITIES										
Will use additional	24	18.6	6	11.5	13	20.2	12	34.2	55	21.2
Discontinue use of some clinical facilities	2	1.6	—	—	—	—	—	—	2	0.8
Cont. to seek additional	—	—	1	1.9	3	6.9	—	—	4	1.5
Explor. better utilization	—	—	3	5.8	7	16.3	4	11.4	14	5.4
Change in usage pattern	3	2.3	—	—	—	—	—	—	3	1.2
CHANGES IN OTHER AREAS										
Add faculty positions	4	3.1	—	—	—	—	—	—	4	1.5
Offer P. N. course to high school seniors	2	1.6	—	—	—	—	—	—	2	0.8
Change adm. require.	3	2.3	—	—	—	—	—	—	3	1.2
Change student fees	—	—	1	1.9	—	—	—	—	1	0.4
Give supporting courses in college	—	—	1	1.9	—	—	—	—	1	0.4
Use new teach. techniques	—	—	—	—	2	3.8	1	2.9	3	1.2
Upgrade clin. faculty	—	—	—	—	—	—	1	2.9	1	0.4
Develop graduate level nursing program	—	—	—	—	—	—	1	2.9	1	0.4

*Reflects discontinuance of optional associate degree in a baccalaureate program.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 26

GIRL GRADUATES FROM PUBLIC HIGH SCHOOLS OF THE UNITED STATES AND THE THIRTEEN WESTERN STATES, 1961-62, AND ADMISSIONS TO NURSING SCHOOLS PREPARING STUDENTS FOR ADMISSION TO LICENSING EXAMINATION FOR REGISTERED NURSES, 1962-63 ACADEMIC YEAR.

STATE	GIRL HIGH SCHOOL GRADUATES 1961-62[1]	ADMISSIONS TO NURSING EDUC. PROGRAMS 1962-63[2]	ADMISSIONS TO NURSING PROGRAMS PERCENT OF GIRL H. S. GRADUATES	RANK ORDER OF STATES IN PERCENT ADMITTED TO NURSING PROGRAMS
The United States*	857,358	49,228	5.7	—
The West	150,811	5,899	3.9	—
Alaska	692	—	—	13
Arizona	6,240	488	7.8	1
California	83,000	2,758	3.3	8.5
Colorado	8,488	403	4.7	6
Hawaii	3,894	128	3.3	8.5
Idaho	4,311	131	3.1	10
Montana	3,640	218	5.9	2
Nevada	1,306	29	2.2	11
New Mexico	4,485	70	1.6	12
Oregon	10,010	482	4.8	4.5
Utah	5,963	289	4.8	4.5
Washington	16,877	830	4.9	3
Wyoming	1,905	73	3.8	7

*Excludes Puerto Rico.
Sources: [1] **Digest of Educational Statistics** (Washington, D.C.: Dept. of Health, Education, and Welfare, Office of Education, 1963), Table 29, pp. 40-41.
[2] **Facts About Nursing** (New York: American Nurses' Association, 1965), Table 6, p. 85.

TABLE 27

GIRL GRADUATES FROM PUBLIC HIGH SCHOOLS OF THE UNITED STATES AND THE THIRTEEN WESTERN STATES, 1962-63, AND ADMISSIONS TO NURSING SCHOOLS PREPARING STUDENTS FOR ADMISSION TO LICENSING EXAMINATION FOR REGISTERED NURSES, SEPTEMBER 1 TO DECEMBER 31, 1963.

STATE	GIRL HIGH SCHOOL GRADUATES 1962-63[1]	ADMISSIONS TO NURSING EDUC. PROGRAMS, 9/1/63 TO 12/31/63[2]	ADMISSIONS AS A PERCENT OF GIRL HIGH SCHOOL GRADS.	RANK ORDER OF STATES IN PERCENT ADMITTED TO NURSING PROGRAMS
The United States	866,377	44,571*	5.1	—
The West	155,424	5,565	3.6	—
Alaska	764	—	—	13
Arizona	7,165	473	6.6	1
California	86,500	2,768	3.2	8
Colorado	8,804	443	5.0	3
Hawaii	3,863	105	2.7	10
Idaho	4,275	146	3.4	7
Montana	3,514	216	6.1	2
Nevada	1,383	28	2.0	11
New Mexico	4,406	41	0.9	12
Oregon	10,345	289	2.8	9
Utah	5,789	233	4.0	5
Washington	16,836	757	4.5	4
Wyoming	1,780	66	3.7	6

*Excludes Puerto Rico.
Note: Graduates from private high schools not included. There are 4,129 non-public secondary schools in the U.S., as compared with 25,350 public secondary schools.
Sources: [1] **Digest of Educational Statistics** (Washington, D.C.: Dept. of Health, Education, and Welfare, Office of Education, 1963), Table 36, pp. 54-55.
[2] **State Approved Schools of Professional Nursing** (New York: National League for Nursing, 1964), p. 96.

TABLE 28

Registered Nurse Students Admitted to Baccalaureate Programs in Nursing in the Thirteen Western States, 1959-1964, by State, Year, and Full- or Part-time Student, in Number Admitted

State	Part-time Student 1959	1960	1961	1962	1963	1964	Total	Full-time Student 1959	1960	1961	1962	1963	1964	Total
Arizona	35	35	63	65	70	79	347	52	42	16	30	35	46	221
California	224	266	298	275	430	483	1,976	175	158	184	227	218	265	1,227
Colorado	5	2	2	2	1	–	12	46	44	50	62	47	49	298
Hawaii	–	–	–	–	6	2	8	–	–	–	–	–	–	
Idaho	–	–	–	–	–	–	–	–	–	–	–	–	2	2
Montana	–	–	–	–	–	2	2	38	42	25	31	31	19	186
Nevada	–	–	–	–	–	–	–	–	–	–	–	–	3	3
New Mexico	Did not answer question (could not separate records from basic).													
Oregon	43	28	21	16	5	6	119	73	71	66	51	53	60	374
Utah	21	49	40	62	50	67	289	37	41	33	35	47	33	226
Washington	12	13	10	4	4	19	62	63	55	68	78	69	153	486
Wyoming	–	1	2	–	–	–	3	1	3	3	–	5	2	14
Totals	340	394	436	424	566	658	2,818	485	456	445	514	505	632	3,037

Notes: 1. Of the 5,855 admitted, the 2,818 who were part-time students at the time of admission, comprised 48 percent.
2. The 5,855 admitted equal 42.2 percent of the 13,871 pre-service students admitted.
3. The number admitted as part-time students in 1964 exceeded the number admitted as part-time students in 1959 by 93.5 percent.
4. The number admitted as full-time students in 1964 exceeded the number admitted as full-time students in 1959 by 30.3 percent.
5. The total number admitted in 1964 exceeded the total number admitted in 1959 by 56.4 percent.
6. The 2,980 pre-service students admitted to baccalaureate programs in nursing in 1964, exceeds the 1,833 admitted in 1959 by 62.6 percent.

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 29

REGISTERED NURSE STUDENTS GRADUATED FROM BACCALAUREATE PROGRAMS 1959-1964, BY STATE, IN NUMBER GRADUATED

STATE	YEAR 1959	1960	1961	1962	1963	1964	TOTAL
Arizona	1	14	16	8	10	15	64
California	126	144	147	158	169	176	920
Colorado	27	42	46	42	45	51	253
Hawaii	15	11	15	7	3	2	53
Idaho	—	—	—	2	—	—	2
Montana	13	17	18	19	27	17	111
Nevada	—	—	2	3	—	3	8
New Mexico	4	3	3	11	11	3	35
Oregon	20	22	26	17	13	32	130
Utah	18	18	20	18	13	17	104
Washington	56	57	51	51	68	73	356
Wyoming	1	1	1	—	1	—	4
Totals	**281**	**329**	**345**	**336**	**360**	**389**	**2,040**

Notes: 1. The number of registered nurses awarded baccalaureate degree in 1964 was 38.4 percent higher than the number awarded degrees in 1959.
2. The registered nurses earning baccalaureate degrees equalled 43.3 percent of the number of pre-service students earning such degrees.
3. Of the total of 6,657 baccalaureate degrees earned in nursing, those earned by registered nurses comprised 30.6 percent.

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 30

REGISTERED NURSE STUDENTS ENROLLED IN BACCALAUREATE NURSING PROGRAMS JANUARY 1965, BY TYPE OF PRE-SERVICE NURSING PROGRAM AND FULL- OR PART-TIME ENROLLMENT IN NUMBER ENROLLED

			TYPE PRE-SERVICE PROGRAM			
	NUMBER OF SCHOOLS		ASSOCIATE DEGREE NUMBER ENROLLED		DIPLOMA NUMBER ENROLLED	
STATE	IN SURVEY	RESPONDING	PART-TIME	FULL-TIME	PART-TIME	FULL-TIME
Arizona	2	2	4	2	77	40
California	15	12	13	28	122	152
Colorado	3	2	—	2	102	87
Hawaii	1	1	—	2	3	8
Idaho	1	1	—	—	10	—
Montana	1	1	—	3	—	21
Nevada	1	0	—	—	—	—
New Mexico	1	1	1	—	8	8
Oregon	2	1	—	1	3	26
Utah	2	1	17	14	33	19
Washington	5	4	—	4	48	183
Wyoming	1	1	—	—	1	8
Totals	**35**	**27**	**35**	**56**	**407**	**552**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 31

Number of Associate Degree and Diploma Graduates Enrolling in Baccalaureate Nursing Programs Within One Year of Graduation by State and by Year, in Number Enrolling, as Reported by Responding Associate Degree and Diploma Programs

	Associate Degree							Diploma						
State	1959	1960	1961	1962	1963	1964	Total	1959	1960	1961	1962	1963	1964	Total
Arizona	—	—	4	1	2	—	7	7	9	5	7	16	2	46
California	8	8	13	19	26	30	104	28	24	44	44	55	74	269
Colorado	—	—	—	—	—	—	—	7	2	8	8	7	7	39
Hawaii	—	—	—	—	—	—	—	2	2	—	1	1	2	8
daho	3	2	1	7	2	7	22	2	—	—	1	1	2	6
Montana	—	—	—	—	—	—	—	6	5	5	7	5	5	33
Oregon	—	—	—	—	—	—	—	4	4	6	7	8	6	35
Utah	7	3	1	2	4	5	22	2	1	3	1	4	1	12
Washington	—	—	—	1	4	4	9	18	14	19	19	18	24	112
Totals	**18**	**13**	**19**	**30**	**38**	**46**	**164**	**76**	**61**	**90**	**95**	**115**	**123**	**560**

Total equals 5.3 percent of the 3,077 reported graduated.

Total equals 6.8 percent of the 8,206 graduates.

Note: The one diploma school in New Mexico did not report any graduates enrolling in baccalaureate programs within one year of graduation. There are no associate degree programs in that state. Alaska has no nursing education programs; Nevada and Wyoming have only baccalaureate programs.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 32

Number Granted Baccalaureate Degrees in Nursing, Pre-service and Registered Nurse Students,* 1959-1964 Inclusive, in Twelve Western States, and Number and Percent of Those Graduates Who Enrolled in Graduate Level Programs Within One Year After Award of Baccalaureate Degree, by State

	Ariz.	Calif.	Colo.	Hawaii	Idaho	Mont.	Nev.	N. Mex.	Ore.	Utah	Wash.	Wyo.	Total
Pre-service students awarded baccalaureate degree	119	1,690	514	141	44	221	25	77	511	279	924	72	4,617
Number who enrolled in graduate programs within one year of graduation	2	66	21	6	2	30	0	9	17	4	37	2	196
Percent who enrolled in graduate program within one year	1.7	3.9	4.1	4.3	4.5	13.6	0	11.7	3.3	1.4	4.0	2.8	4.2
Registered nurse students awarded baccalaureate degree	64	920	253	53	2	111	8	35	130	104	356	4	2,040
Number who enrolled in graduate program within one year	5	109	41	—	2	20	1	1	31	16	35	1	262
Percent who enrolled in graduate program within one year	7.8	11.8	16.2	—	100.0	18.1	12.5	2.9	23.8	15.4	9.8	25.0	12.8
Total number awarded baccalaureate degrees	183	2,610	767	194	46	332	33	112	641	383	1,280	76	6,657
Total number who enrolled in graduate program within one year	7	175	62	6	4	50	1	10	48	20	72	3	458
Percent who enrolled in graduate program within one year	3.8	6.7	8.1	3.1	8.7	15.1	3.0	8.9	7.5	5.2	5.6	3.9	6.9

Graduates of diploma or Associate Degree Programs.
ource: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 33

ACADEMIC PREPARATION OF FULL-TIME REGISTERED NURSE FACULTY MEMBERS IN NURSING PROGRAMS IN THE THIRTEEN WESTERN STATES BY TYPE PROGRAM IN NUMBER WITH EACH DEGREE AS HIGHEST LEVEL OF PREPARATION

ACADEMIC PREPARATION	PRACTICAL NURSING	DIPLOMA	ASSOC. DEGREE	BACCAL.	BACCAL. AND MASTER'S	TOTAL
Diploma or A. A. degree	99	50	5	1	—	155
Baccalaureate in nursing	173	308	64	39	20	604
Baccalaureate in another field	46	52	21	1	2	122
Master's in nursing	55	99	145	311	223	833
Master's in another field	35	38	37	37	52	199
Ed.D.	1*	—	4	7	12	24
Ph.D.	—	—	—	2	10	12
Totals	**409**	**547**	**276**	**398**	**319**	**1,949**

*Apparently administrative head for both the practical and the associate degree program.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 34

ACADEMIC PREPARATION OF FULL-TIME REGISTERED NURSE FACULTY MEMBERS IN NURSING PROGRAMS IN THE THIRTEEN WESTERN STATES BY TYPE PROGRAM IN PERCENT WITH EACH DEGREE AS HIGHEST LEVEL OF PREPARATION

ACADEMIC PREPARATION	PRACTICAL NURSING	DIPLOMA	ASSOC. DEGREE	BACCAL.	BACCAL. AND MASTER'S	TOTAL
Diploma or A. A. degree	24.2	9.1	1.8	.3	—	7.9
Baccalaureate in nursing	42.4	56.4	23.2	9.8	6.3	30.9
Baccalaureate in another field	11.2	9.5	7.6	.3	.6	6.3
Master's in nursing	13.4	18.1	52.6	78.1	69.9	42.9
Master's in another field	8.6	6.9	13.4	9.2	16.3	10.2
Ed.D.	.2	—	1.4	1.8	3.8	1.2
Ph.D.	—	—	—	.5	3.1	.6
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 35

ACADEMIC PREPARATION OF PART-TIME REGISTERED NURSE FACULTY MEMBERS IN NURSING PROGRAMS IN THE THIRTEEN WESTERN STATES BY TYPE PROGRAM IN NUMBER WITH EACH DEGREE AS THE HIGHEST EARNED

ACADEMIC PREPARATION	PRACTICAL NURSING	DIPLOMA	ASSOC. DEGREE	BACCAL.	BACCAL. AND MASTER'S	ALL PROGRAMS
Diploma or A. A. degree	38	11	1	1	—	51
Baccalaureate in nursing	35	23	14	18	8	98
Baccalaureate in another field	6	6	1	—	—	13
Master's in nursing	19	8	10	7	21	65
Master's in another field	3	6	2	3	—	14
Ed.D.	1	—	—	—	1	2
Ph.D.	—	1	—	—	2	3
Totals	**102**	**55**	**28**	**29**	**32**	**246**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 36

Academic Preparation of Part-time Registered Nurse Faculty Members in Nursing Programs in the Thirteen Western States by Type Program in Percent With Each Degree as the Highest Earned

Academic Preparation	Practical Nursing	Diploma	Assoc. Degree	Baccal.	Baccal. and Master's	All Programs
Diploma or A.A. degree	37.4	20.0	3.6	3.4	—	**20.7**
Baccalaureate in nursing	34.3	41.8	50.0	62.2	25.0	**39.9**
Baccalaureate in another field	5.9	10.9	3.6	—	—	**5.3**
Master's in nursing	18.6	14.5	35.7	24.1	65.6	**26.4**
Master's in another field	2.9	10.9	7.1	10.3	—	**5.7**
Ed.D.	.9	—	—	—	3.1	**.8**
Ph.D.	—	1.8	—	—	6.3	**1.2**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 37

Academic Preparation of Full-time, Non-nurse Faculty Members in Nursing Programs in the Thirteen Western States, by Type Program, in Number with Each Degree as the Highest Level of Academic Preparation

Academic Preparation	Practical Nursing	Diploma	Assoc. Degree	Baccal.	Baccal. and Master's	All Programs
No degree	8	5	1	—	—	**14**
Baccalaureate	4	25	—	—	—	**29**
Master's	7	8	12	2	4	**33**
Ed.D.	—	—	—	—	—	—
Ph.D.	2	—	3	1	9	**15**
Totals	**21**	**38**	**16**	**3**	**13**	**91**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 38

Academic Preparation of Full-time, Non-nurse Faculty Members in Nursing Programs in the Thirteen Western States, by Type Program, in Percent with Each Degree as the Highest Level of Academic Preparation

Academic Preparation	Practical Nursing	Diploma	Assoc. Degree	Baccal.	Baccal. and Master's	All Programs
No degree	38.1	13.2	6.3	—	—	**15.4**
Baccalaureate	19.1	65.8	—	—	—	**31.9**
Master's	33.3	21.0	75.0	66.7	30.8	**36.2**
Ed.D.	—	—	—	—	—	—
Ph.D.	9.5	—	18.7	33.3	69.2	**16.5**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 39

ACADEMIC PREPARATION OF PART-TIME, NON-NURSE FACULTY MEMBERS IN SCHOOLS OF NURSING IN THE THIRTEEN WESTERN STATES, BY TYPE PROGRAM IN NUMBER WITH EACH DEGREE AS THE HIGHEST LEVEL OF PREPARATION

ACADEMIC PREPARATION	PRACTICAL NURSING	DIPLOMA	ASSOC. DEGREE	BACCAL.	BACCAL. AND MASTER'S	ALL PROGRAMS
No degree	3	–	–	–	–	**3**
Baccalaureate	19	35	1	5	3	**63**
Master's	14	50	15	5	3	**87**
Ed.D.	3	3	1	1	2	**10**
Ph.D.	2	14	4	11	5	**36**
M.D.	–	–	–	–	3	**3**
Totals	**41**	**102**	**21**	**22**	**16**	**202**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 40

ACADEMIC PREPARATION OF PART-TIME, NON-NURSE FACULTY MEMBERS IN SCHOOLS OF NURSING IN THE THIRTEEN WESTERN STATES, BY TYPE PROGRAM IN PERCENT WITH EACH DEGREE AS THE HIGHEST LEVEL OF PREPARATION

ACADEMIC PREPARATION	PRACTICAL NURSING	DIPLOMA	ASSOC. DEGREE	BACCAL.	BACCAL. AND MASTER'S	ALL PROGRAMS
No degree	7.3	–	–	–	–	**1.5**
Baccalaureate	46.4	34.4	4.8	22.7	18.7	**31.2**
Master's	34.1	49.0	71.4	22.7	18.7	**43.1**
Ed.D.	7.3	2.9	4.8	4.6	12.5	**4.9**
Ph.D.	4.9	13.7	19.0	50.0	31.4	**17.8**
M.D.	–	–	–	–	18.7	**1.5**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 41

NURSE FACULTY MEMBERS IN NURSING PROGRAMS IN THE THIRTEEN WESTERN STATES. ANTICIPATED NUMBER NEEDED TO REPLACE THOSE WHO RETIRE OR RESIGN, 1965 AND 1966-70, IN NUMBER AND IN PERCENT OF NUMBER CURRENTLY ON FACULTIES, BY TYPE PROGRAM

TYPE PROGRAM	NO. FULL-TIME NURSE FACULTY 1964-1965	REPLACEMENTS NEEDED, 1965		REPLACEMENTS NEEDED, 1966-1970		TOTAL AS PERCENT OF 1964-65 FACULTY
		NUMBER	PERCENT OF 1964-65 FACULTY	NUMBER	PERCENT OF 1964-65 FACULTY	
Practical Nursing	409	45	11.0	39	9.5	20.5
Associate Degree	276	33	11.9	26	9.4	21.3
Diploma	547	86	15.7	123	22.5	38.2
Baccalaureate	398	42	10.6	51	12.8	23.4
Baccal. and Master's	319	34	10.7	82	25.7	36.4
Total	**1,949**	**240**	**12.3**	**321**	**16.5**	**28.8**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 42

Nurse Faculty Members Needed to Fill Newly Created Positions in Nursing Programs in the Thirteen Western States, 1965 and 1966-70, in Number and in Percent Currently on Faculties, by Type Program

Type Program	No. Full-time Nurse Faculty 1964-1965	New Positions to be Created 1965		New Positions to be Created — 1966-1970		Total as Percent of 1964-65 Faculty
		Number	Percent of 1964-65 Faculty	Number	Percent of 1964-65 Faculty	
Practical Nursing	409	48	11.7	49	11.9	23.7
Associate Degree	276	38	13.8	47.5	17.2	30.9
Diploma	547	28	5.1	67	12.2	17.4
Baccalaureate	398	43	10.8	124	31.2	41.9
Baccal. and Master's	319	25	7.8	71	22.3	30.1
Total	**1,949**	**182**	**9.3**	**358.5**	**18.4**	**27.7**

Total 1965 = 21.7 percent of 1964-65
Total 1966-70 = 34.9 percent of 1964-65
Total 1965-70 = 56.5 percent of 1964-65

(Total of New Positions - 540½—
27.7 percent of Current Faculty)

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 43

Nurse Faculty Needed by Western Schools of Nursing, by Desired Academic Preparation and Type Program, 1965 and 1966-70, in Number Needed

Academic Preparation Desired of New Faculty Members	1965						1966-70					
	Pract. Nrsng.	Assoc. Degree	Dipl.	Bacc.	Bacc. and Master's	All Prog.	Pract. Nrsng.	Assoc. Degree	Dipl.	Bacc.	Bacc. and Master's	All Prog.
Diploma	12	–	–	–	–	**12**	4	–	–	–	–	**4**
Baccalaureate	59	3	59	2	–	**123**	37	2	69	4	–	**112**
Master's	22	68	55	79	43	**267**	47	71.5	121	139	112	**490.5**
Ed.D.	–	–	–	2	3	**5**	–	–	–	14	5	**19**
Ph.D.	–	–	–	2	13	**15**	–	–	–	18	36	**54**
Totals	**93**	**71**	**114**	**85**	**59**	**422**	**88**	**73.5**	**190**	**175**	**153**	**679.5**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 44

Nurse Faculty Needed by Western Schools of Nursing, by Desired Academic Preparation and Type Program, 1965 and 1966-70, in Percent

Academic Preparation Desired of New Faculty Members	1965						1966-70					
	Pract. Nrsng.	Assoc. Degree	Dipl.	Bacc.	Bacc. and Master's	All Prog.	Pract. Nrsng.	Assoc. Degree	Dipl.	Bacc.	Bacc. and Master's	All Prog.
Diploma	12.9	–	–	–	–	**2.8**	4.5	–	–	–	–	**.6**
Baccalaureate	63.4	4.2	51.8	2.4	–	**29.1**	42.1	2.7	36.3	2.3	–	**16.5**
Master's	23.7	95.8	48.2	92.8	72.9	**63.3**	53.4	97.3	63.7	79.4	73.2	**72.2**
Ed.D.	–	–	–	2.4	5.1	**1.2**	–	–	–	8.0	3.3	**2.8**
Ph.D.	–	–	–	2.4	22.0	**3.6**	–	–	–	10.3	23.5	**7.9**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 45

ADDITIONAL NURSE FACULTY MEMBERS FOR WHOM NEED IS ANTICIPATED DURING 1965, BY ACADEMIC PREPARATION DESIRED, TYPE OF PROGRAM, AND NEEDED AS REPLACEMENT, OR TO FILL NEW POSITION, IN NUMBER NEEDED

ACADEMIC PREPARATION DESIRED	PRACTICAL NURSING		ASSOCIATE DEGREE		DIPLOMA		BACC. AND BACC. AND MASTER'S		ALL PROGRAMS
	REPLACE.	NEW POSITION	REPLACE.	NEW POSITION	REPLACE.	NEW POSITION	REPLACE.	NEW POSITION	
Diploma	5	7	–	–	–	–	–	–	**12**
Baccalaureate Degree	31	28	3	–	48	11	2	–	**123**
Master's, with major in:									
Public Health Nursing	–	2	–	–	–	–	17	8	**27**
Psychiatric Nursing	–	1	5	9	6	7	12	10	**50**
Maternal-Child Nursing	4	3	8	12	9	2	13	14	**65**
Medical-Surgical Nursing	3	6	13	13	16	6	23	16	**96**
A Different Clinical Field	–	–	3	3	3	–	1	4	**14**
A Non-clinical Area	2	1	–	–	2	1	–	3	**9**
A Non-nursing Area	–	–	1	1	2	1	1	1	**7**
Ed.D.	–	–	–	–	–	–	2	2	**4**
Ph.D.	–	–	–	–	–	–	5	10	**15**
Totals	**45**	**48**	**33**	**38**	**86**	**28**	**76**	**68**	**422**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 46

ADDITIONAL NURSE FACULTY MEMBERS FOR WHOM NEED IS ANTICIPATED DURING 1965 IN THE THIRTEEN WESTERN STATES, BY TYPE PROGRAM, IN PERCENT OF ANTICIPATED VACANCIES TO BE FILLED BY PERSONS WITH EACH LEVEL AND TYPE OF ACADEMIC PREPARATION

LEVEL AND TYPE ACADEMIC PREPARATION	PRACTICAL NURSING	ASSOC. DEGREE	DIPLOMA	BACC. AND BACC. AND MASTER'S	TOTAL
Diploma	12.9	—	—	—	**2.8**
Baccalaureate Degree	63.4	4.2	51.9	1.4	**29.1**
Master's, with major in:					
Public Health Nursing	2.2	—	—	17.2	**6.4**
Psychiatric Nursing	1.1	19.7	11.4	15.2	**11.8**
Maternal-Child Nursing	7.5	28.2	9.6	18.7	**15.4**
Medical-Surgical Nursing	9.7	36.6	19.3	26.9	**22.7**
A Different Clinical Field	—	8.5	2.6	3.4	**3.3**
A Non-clinical Area	3.2	—	2.6	2.1	**2.1**
A Non-nursing Area	—	2.8	2.6	1.4	**1.7**
Ed.D.	—	—	—	3.4	**1.2**
Ph.D.	—	—	—	10.3	**3.5**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 47

Additional Nurse Faculty Members for Whom Need is Anticipated, 1966-1970 by Academic Preparation Desired, Type Program, and Reason for Need, in Number Needed

	Practical Nursing		Assoc. Degree		Diploma		Bacc. and Bacc. and Master's		
Academic Preparation Desired of New Faculty	Replace.	New Position	Replace.	New Position	Replace.	New Position	Replace.	New Position	All Programs
Diploma	2	2	–	–	–	–	–	–	**4**
Baccalaureate Degree	23	14	53	16	2	–	–	4	**112**
Master's, with major in:									
Public Health Nursing	3	2	–	2	3	–	19	31	**60**
Psychiatric Nursing	1	5	10	8	5	8	20	29	**86**
Maternal-Child Nursing	1	6	18	15	7	12.5	19	35	**113.5**
Medical-Surgical Nursing	9	18	32	20	9	21.5	41	32	**182.5**
A Different Clinical Field	–	2	1	3	–	2.5	6	6	**20.5**
A Non-clinical Area	–	–	6	1	–	–	6	3	**16**
A Non-nursing Area	–	–	2	2	–	3	2	2	**11**
Ed.D.	–	–	1	–	–	–	3	16	**20**
Ph.D.	–	–	–	–	–	–	17	37	**54**
Totals	**39**	**49**	**123**	**67**	**26**	**47.5**	**133**	**195**	**679.5**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 48

Additional Nurse Faculty for Whom Need is Anticipated, 1966-1970, in Percent of Those Needed for Whom Each Type of Academic Preparation is Desired

Academic Preparation Desired of New Faculty	Practical Nursing	Diploma	Assoc. Degree	Bacc. and Bacc. and Master's	All Programs
Diploma	4.5	–	–	–	**.6**
Baccalaureate Degree	42.1	36.3	2.8	1.2	**16.5**
Master's, with major in:					
Public Health Nursing	5.7	1.1	4.2	15.2	**8.8**
Psychiatric Nursing	6.8	9.4	17.9	14.9	**12.7**
Maternal-Child Nursing	7.9	17.4	26.5	16.5	**16.7**
Medical-Surgical Nursing	30.7	27.4	41.5	22.3	**26.9**
A Different Clinical Field	2.3	2.1	2.9	3.7	**3.0**
A Non-clinical Area	–	3.7	–	2.7	**2.4**
A Non-nursing Area	–	2.1	4.2	1.2	**1.6**
Ed.D.	–	.5	–	5.8	**2.9**
Ph.D.	–	–	–	16.5	**7.9**
Totals	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 49

Admissions to and Graduation from Master's Programs in Nursing in the Thirteen Western States, 1959-1964 (Inclusive), by Year, in Number Admitted and Graduated

Year	Admission	Graduation
1959	325	147
1960	338	191
1961	344	174
1962	387	235
1963	453	244
1964	424	283
Total	**2,271**	**1,293**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 50

GRADUATION FROM MASTER'S PROGRAMS IN NURSING IN THE THIRTEEN WESTERN STATES, 1959-1964, BY MAJOR AREA OF STUDY, IN NUMBER GRADUATED, AND PERCENT OF TOTAL WITH EACH MAJOR

MAJOR	NUMBER	PERCENT OF TOTAL
Maternal-Child (Nursing or Health)	153	11.9
Maternity (includes Obstetrics)	18	1.4
Nursing of Children (includes Pediatrics)	24	1.9
Medical-Surgical Nursing	373	28.9
Psychiatric Nursing (or Psychiatric Nursing - Mental Health)	248	19.2
Psychiatric - Public Health Nursing	5	.4
Public Health Nursing (Includes School Nursing, Occupational Health)	166	12.9
Health Leadership in Nursing	4	.3
Public Health Nursing Administration	29	2.2
Administration	3	.2
Supervision and Administration in Nursing	19	1.5
Nursing School Administration	59	4.6
Nursing Service Administration	124	9.6
Teaching in Schools of Nursing (and Teaching in Nursing)	63	4.9
Curriculum and Teaching	1	.05
Master Personnel Service	1	.05
Totals	**1,290**	**100.00**

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 51

MAJOR AREAS OF STUDY OF STUDENTS ENROLLED IN MASTER'S PROGRAMS IN NURSING IN THE WEST, FALL 1964, IN NUMBER AND PERCENT OF TOTAL

AREA[1]	ENROLLED		TOTAL	
	FULL-TIME	PART-TIME	NUMBER	PERCENT
Maternal-Child Nursing	42	—	42	8.1
Maternal-Child Health	2	—	2	.4
Mother and Infant	4	2	6	1.2
Maternity	4	—	4	.8
Maternal-Child - Teaching & Supv.	12	—	12	2.3
Nursing of Children	9	1	10	1.9
Medical-Surgical Nursing	138	17	155	30.0
Med.-Surg. Nrsg - Teaching & Supv.	26	—	26	5.0
Psychiatric Nursing	60	—	60	11.6
Psychiatric-Mental Health	23	—	23	4.4
Psychiatric-Public Health Nursing	2	—	2	.4
Mental Health-Public Health Consult.	4	—	4	.8
Public Health Nursing	65	3	68	13.2
Public Health Nursing Adm.	11	—	11	2.1
Public Health - Teaching & Supv.	14	—	14	2.7
School Nursing	3	—	3	.6
School Health	2	—	2	.4
Nursing School Adm.	11	—	11	2.1
Nursing Service Adm.	35	—	35	6.8
Teaching in Schools of Nursing	14	13	27	5.2
Totals	**481**	**36**	**517**	**100.0**
Master of Personnel Service-Nrsng Field	3			
	484			

[1] Areas titled as reported by the respondents.

Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

TABLE 52

REGISTERED NURSES KNOWN TO BE CURRENTLY ENROLLED IN DOCTORAL STUDY IN THE NINE WESTERN UNIVERSITIES OFFERING MASTER'S PROGRAMS IN NURSING, JANUARY 1965

		YEAR OF ANTICIPATED GRADUATION						TOTAL	
MAJOR AREA OF STUDY	DEGREE ANTICIPATED	1964 STUDENTS	1965 STUDENTS	1966 STUDENTS	1967 STUDENTS	1968 STUDENTS	1969 STUDENTS	NUMBER	PERCENT
Public Health Administration	D. P.H.	–	1	1	1	–	–	3	7.1
Epidemiology	Ph.D.	–	–	–	1	–	–	1	2.4
Sociology	Ph.D.	–	2	4	3	1	2	12	28.6
Psychology	Ph.D.	–	1	–	4	1	–	6	14.3
Anthropology	Ph.D.	–	2	1	2	1	–	6	14.3
Education	Ed.D.	–	2	–	–	2	1	5	11.9
Education	Ph.D.	1	4	2	–	–	–	7	16.6
Physiology	Ph.D.	–	–	–	2	–	–	2	4.8
Totals		1	12	8	13	5	3	42	
Percent		2.4	28.6	19.1	30.9	11.9	7.1		100.0

Note: Responding schools indicate a need for 93 additional nurses with doctorates for faculty position by 1970.
Source: Mailed questionnaire survey conducted by WCHEN, January 1965.

APPENDIX C

STATE TABLES AND SUMMARY

A. SOURCES OF DATA

1. Graduations from nursing programs.

   a. Responses to mailed questionnaire survey conducted by WCHEN, January 1965.

2. Population

   a. 1962—U.S. Bureau of the Census, *Statistical Abstract of the United States: 1964* (Eighty-fifth edition) Washington, D.C., 1964. Table No. 8, p. 11.

   b. 1964—U.S. Bureau of the Census, *Population Estimates*, Series P-25, No. 294, Nov. 5, 1964, Washington, D.C., 1964. Table 5, p. 10.

   c. 1970—Henry S. Shyrock, "Recent and Future Trends in Our Population," (Prepared for paper presented at annual meeting, Western Branch, American Public Health Association, Phoenix, Arizona, May 29, 1963). Series III-1 figures utilized.

   d. 1976—Outdoor Recreation Review Commission, *Projections to the Years 1976 and 2000; Economic Growth, Population, Labor Force and Leisure, and Transportation,* (Washington, D.C.: U.S. Government Printing Office, 1962) Table A-2, pp. 5-6.

3. Number of registered nurses currently employed

   a. States for which 1962 figures were utilized—A.N.A. *The Nation's Nurses*, New York: A.N.A., Table 1A, p. 23.

   b. States for which 1964 figures were utilized—the Board of Nursing in the individual state.

4. Percent of employed registered nurses with each academic credential

   a. Six states—Alaska, Arizona, Colorado, New Mexico, Oregon, and Utah—reported the number of employed nurses with each academic credential. The percent of the total with each academic credential was computed, for purposes of this study, from those reports. The number for whom the highest academic credential was reported as "unknown" by these six states were included with the "diploma or associate degree" category in the computation of percentages. In none of these six states was the number reported as "unknown" greater than one percent of the total.

   b. For the remaining seven states—California, Hawaii, Idaho, Montana, Nevada, Washington, and Wyoming—estimates were utilized of the percentages of nurses in these states with each academic credential as prepared by the Division of Nursing, USPHS, from unpublished data collected by that agency. The information from which these estimates were projected was secured by the Division of Nursing, USPHS, and served as the base for the estimates of the number and percent of registered nurses holding academic degrees as reported in USPHS, *Nurses for Leadership* (Washington: U.S. Government Printing Office, 1963) Table 1, p. 14.

5. Current nurse-population ratios

   a. Computed for purposes of this report from number of registered nurses employed and population estimates from indicated sources.

6. Nursing education resources

   a. Responses to mailed questionnaire survey conducted by WCHEN, January 1965.

B. NUMBER OF REGISTERED NURSES TO BE EMPLOYED IN 1970 AND 1976

1. The total number needed to be employed in each state was computed for purposes of this study on the basis of the nurse-population ratios indicated on the tables.

   a. The total number of nurses to be employed was first computed on the basis of the 1964 nurse-population ratio in those states reporting the number of registered nurses employed in 1964, and on the basis of 1962 nurse-population ratios for the remaining states.

   b. The second computation of the total number of nurses needed is based on a desirable nurse-population ratio of 400/100,000. This desirable ratio was computed from the number of nurses needed in practice in 1970 to meet the nation's needs—850,000—as enunciated by the Surgeon General's Consultant Group on Nursing[1] and the estimate of a 1970 national population of 208,256,000, as follows:

$$\frac{850{,}000}{2{,}082.6} = 408.1$$

   The ratio thus determined was rounded to 400 employed registered nurses for each 100,000 persons residing in the United States.

2. The number of registered nurses needed with each academic credential was based upon the recommended composition of the registered nurse work force prepared by the National League for Nursing, and published in *Nurses for a Growing Nation*, as follows:

   Diploma or associate degree—67%
   Baccalaureate—20%
   Master's or Doctoral—13%

C. NUMBER OF ADDITIONAL NURSES NEEDED ANNUALLY UNTIL 1970

1. The actual or estimated number of registered nurses with each academic credential for the most recent year available (1962 or 1964 as indicated on the state table) was subtracted from the number needed in 1970, and the remainder divided by the number of years in the period (eight for those states for which only 1962 data were available, and six for the other states).

2. The additional number needed annually to replace attrition was computed by determining the arithmetic mean of the number in current practice and the number needed in 1970 with each academic credential, and taking five percent of that mean.

3. Thus, the number of additional nurses needed annually with each academic credential, in each state, is based on the assumption that each state will achieve, by 1970, a registered nurse work force made up of 67 percent with the diploma or associate degree, 20 percent with the baccalaureate degree, and 13 percent with master's or doctoral degrees.

D. ADDITIONAL NUMBER OF NURSES NEEDED ANNUALLY, 1970-1976.

1. Computed as outlined in paragraph "C", and based on the assumption that a registered nurse work force of the indicated size and desired composition (in terms of the percent with each academic credential) will be achieved by 1970.

2. Thus, the number of additional nurses needed annually with baccalaureate and the number with graduate degrees is not as great, in most states, between 1970 and 1976 as for the remainder of the 1960's. If states do not achieve by 1970 a registered nurse work force of the desired size and composition, the annual needs from 1970 to 1976 will vary from the estimates found on the state tables.

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[1] **Toward Quality in Nursing, Needs and Goals,** Public Health Service Publication No. 992 (Washington, D.C.: U.S. Department of Health, Education and Welfare, 1963), p. 15.

ALASKA

Population	
1962	242,000
1970	273,000 (Est.)
Growth 1962-1970	31,000 (Est.)
1976	322,000 (Est.)
Growth 1970-1976	49,000 (Est.)
R.N./Population Ratio, 1962	282

EMPLOYED RN's 1962

Academic Credential	Number	Percent of total
Diploma or AA degree	540	79.1
Baccalaureate	126	18.1
Master's or doctoral	17	2.8
Total	683	100.0

NURSING STUDENTS GRADUATED

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	—	—
Pre-service Baccalaureate	—	—
R.N. Baccalaureate	—	—
Master's and Doctoral	—	—

EMPLOYED REGISTERED NURSES NEEDED IN:

1970 At 1962 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1962 Ratio	1976 At 400/100,000
516	732	Diploma or A.A. Degree 67%	608	863
154	218	Baccalaureate 20%	182	258
100	142	Master's or Doctoral 13%	118	167
770	1,092	Total	908	1,288

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1962-1970

Academic Credential	At 1962 Ratio: To meet pop. growth and achieve desired comp. by acad. credential	At 1962 Ratio: To replace attrition of 5% annually	At 1962 Ratio: Total	At 400/100,000: To meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: To replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	0	26	26	24	32	56
Baccalaureate	4	7	11	12	9	21
Master's and Doctoral	10	3	13	16	4	20
Total	14	36	50	52	45	97

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	At 1962 Ratio			At 400/100,000		
Diploma or A.A. Degree	15	28	43	22	40	62
Baccalaureate	5	8	13	7	12	19
Master's and Doctoral	3	5	8	4	8	12
Total	23	41	64	33	60	93

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

Type Program	Number	Number Responding	1964-65 Enrollment	Nurse Faculty, 1965, by Highest Academic Credential: A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	—	—	—	—	—	—	—	—
Associate Degree	—	—	—	—	—	—	—	—
Baccalaureate	—	—	—	—	—	—	—	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal								
Practical Nursing	1	1	37	—	4	1	—	—
Total	1	1	37	—	4	1	—	—

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma		
Associate Degree		
Baccalaureate and		
Baccalaureate and Graduate		
Practical Nursing	—	2
Total		

For source of data and explanatory notes see introduction to this Appendix.

ARIZONA

Population		
1962	1,581,000	
1970	2,102,000	(Est.)
Growth 1962-1970	521,000	(Est.)
1976	2,144,000	(Est.)
Growth 1970-1976	42,000	(Est.)
R.N./Population Ratio, 1964		339
		306

Employed RN's 1964

Academic Credential	Number	Percent of total
Diploma or AA degree	4,503	84.2
Baccalaureate	723	13.5
Master's or doctoral	122	2.3
Total	5,348	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	129	136
Pre-service Baccalaureate	20	43
R.N. Baccalaureate	11	15
Master's and Doctoral	—	—

Employed Registered Nurses Needed in:

1970 At 1964 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1964 Ratio	1976 At 400/100,000
4,774	5,633	Diploma or A.A. Degree 67%	4,870	5,740
1,425	1,682	Baccalaureate 20%	1,454	1,713
926	1,093	Master's or Doctoral 13%	944	1,114
7,125	8,408	Total	7,268	8,567

Average Number of Additional R.N.'s Needed Annually, 1962-1970

Academic Credential	At 1964 Ratio: To meet pop. growth and achieve desired comp. by acad. credential	At 1964 Ratio: To replace attrition of 5% annually	At 1964 Ratio: Total	At 400/100,000: To meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: To replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	45	232	277	186	254	440
Baccalaureate	117	54	171	162	60	222
Master's and Doctoral	134	26	160	162	30	192
Total	296	312	608	510	344	854

Average Number of Additional R.N.'s Needed Annually, 1970-1976

Academic Credential	At 1964 Ratio: To meet pop. growth and achieve desired comp. by acad. credential	At 1964 Ratio: To replace attrition of 5% annually	At 1964 Ratio: Total	At 400/100,000: To meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: To replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	16	241	257	18	284	302
Baccalaureate	5	72	77	5	85	90
Master's and Doctoral	3	47	50	4	55	59
Total	24	360	384	27	424	451

Nursing Education Resources—WICHE Survey, January 1965

Type Program	Number	Number Responding	1964-65 Enrollment	Nurse Faculty, 1965, by Highest Academic Credential: A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	3	3	343	3	40	8	—	—
Associate Degree	2	2	118	—	2	9	—	—
Baccalaureate	2	2	561	—	3	46	1	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal	7	7	1,022	3	45	63	1	—
Practical Nursing	3	3	146	—	6	4	—	—
Total	10	10	1,168	3	51	67	1	—

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	10	9
Associate Degree	2	—
Baccalaureate and Baccalaureate and Graduate	11	21
Practical Nursing	4	4
Total	27	34

For source of data and explanatory notes see introduction to this Appendix.

CALIFORNIA

Population		
1962	17,029,000	
1970	21,574,000	(Est.)
Growth 1962-1970	4,545,000	(Est.)
1976	23,744,000	(Est.)
Growth 1970-1976	2,170,000	(Est.)
R.N./Population Ratio, 1962	306	

Employed RN's 1962

Academic Credential	Number	Percent of total*
Diploma or AA degree	42,608	81.7
Baccalaureate	8,448	16.2
Master's or doctoral	1,095	2.1
Total	52,151	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	897	1,133
Pre-service Baccalaureate	282	326
R.N. Baccalaureate	153	176
Master's and Doctoral	98	143

Employed Registered Nurses Needed in:

1970 At 1962 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1962 Ratio	1976 At 400/100,000
44,231	57,819	Diploma or A.A. Degree 67%	48,681	63,634
13,203	17,259	Baccalaureate 20%	14,531	18,995
8,582	11,218	Master's or Doctoral 13%	9,445	12,347
66,016	86,296	Total	72,657	94,976

Average Number of Additional R.N.'s Needed Annually, 1962-1970

Academic Credential	At 1962 Ratio: to meet pop. growth and achieve desired comp. by acad. credential	At 1962 Ratio: to replace attrition of 5% annually	At 1962 Ratio: Total	At 400/100,000: to meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: to replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	203	2,171	2,374	1,901	2,511	4,412
Baccalaureate	594	541	1,135	1,101	643	1,744
Master's and			1,178	1,265	308	1,573
Doctoral	936	242	4,687	4,267	3,462	7,729
Total	1,733	2,954				

Average Number of Additional R.N.'s Needed Annually, 1970-1976

Academic Credential	At 1962 Ratio: to meet pop. growth and achieve desired comp. by acad. credential	At 1962 Ratio: to replace attrition of 5% annually	At 1962 Ratio: Total	At 400/100,000: to meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: to replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	741	2,323	3,064	969	3,036	4,005
Baccalaureate	221	693	914	289	906	1,195
Master's and Doctoral	144	451	595	188	589	777
Total	1,106	3,467	4,573	1,446	4,531	5,977

Nursing Education Resources—WICHE Survey, January 1965

Type Program	Number	Number Responding	1964-65 Enrollment	Nurse Faculty, 1965, by Highest Academic Credential: A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	20	18	1,885	9	150	59	—	—
Associate Degree	29	28	1,992	2	56	147	4	—
Baccalaureate	12	12 }	2,832 Bacc.	—	8	181	1	1
Baccalaureate and Graduate	4	4 }	273 (Masters, Post. M.)	—	8	107	5	6
Subtotal	65	62	6,982	11	222	494	10	7
Practical Nursing	56	47	1,599	48	100	59	1	—
Total	121	109	8,581	59	322	553	11	7

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	29	88
Associate Degree	39	61
Baccalaureate and Baccalaureate and Graduate	68	157
Practical Nursing	32	44
Total	168	350

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

COLORADO

Population	
1964	1,966,000
1970	2,139,000 (Est.)
Growth 1962-1970	173,000 (Est.)
1976	2,580,000 (Est.)
Growth 1970-1976	441,000 (Est.)
R.N./Population Ratio, 1964	407

Employed RN's 1964

Academic Credential	Number	Percent of total
Diploma or AA degree	6,206	77.6
Baccalaureate	1,544	19.3
Master's or doctoral	248	3.1
Total	7,998	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	128	162
Pre-service Baccalaureate	86	79
R.N. Baccalaureate	42	51
Master's and Doctoral	49	49

Employed Registered Nurses Needed in:

1970 At 1964 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1964 Ratio	1976 At 400/100,000
5,832		Diploma or A.A. Degree 67%	7,035	
1,741		Baccalaureate 20%	2,100	
1,132		Master's or Doctoral 13%	1,365	
8,705		Total	10,500	

Average Number of Additional R.N.'s Needed Annually, 1964-1970

	At 1964 Ratio			At 400/100,000		
Academic Credential	to meet pop. growth and achieve desired comp. by acad. credential	to replace attrition of 5% annually	Total	to meet pop. growth and achieve desired comp. by acad. credential	to replace attrition of 5% annually	Total
Diploma or A.A. Degree	—	301	301			
Baccalaureate	33	82	115			
Master's and Doctoral	147	35	182			
Total	180	418	598			

Average Number of Additional R.N.'s Needed Annually, 1970-1976

	At 1964 Ratio			At 400/100,000		
Diploma or A.A. Degree	200	322	522			
Baccalaureate	60	96	156			
Master's and Doctoral	39	62	101			
Total	299	480	779			

Nursing Education Resources—WICHE Survey, January 1965

				Nurse Faculty, 1965, by Highest Academic Credential				
Type Program	Number	Number Responding	1964-65 Enrollment	A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	7	7	540	2	42	20	—	—
Associate Degree	2	2	99	1	1	5	—	—
Baccalaureate	2	2	774 Bacc. 100 (Masters, Post. M.)	—	—	13	—	—
Baccalaureate and Graduate	1	1		—	—	44	4	—
Subtotal	12	12	1,513	3	43	82	4	—
Practical Nursing	14	13	312	10	28	1	—	—
Total	26	25	1,825	13	71	83	4	—

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	15	14
Associate Degree	4	—
Baccalaureate and Baccalaureate and Graduate	5	24
Practical Nursing	10	14
Total	34	52

For source of data and explanatory notes see introduction to this Appendix.

HAWAII

Population	
1962	693,000
1970	836,000 (Est.)
Growth 1962-1970	143,000 (Est.)
1976	881,000 (Est.)
Growth 1970-1976	45,000 (Est.)
R.N./Population Ratio, 1962	285

Employed RN's 1962

Academic Credential	Number	Percent of total*
Diploma or AA degree	1,593	80.7
Baccalaureate	345	17.5
Master's or doctoral	36	7.8
Total	1,974	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	62	46
Pre-service Baccalaureate	24	24
R.N. Baccalaureate	9	2
Master's and Doctoral	—	—

Employed Registered Nurses Needed in:

1970 At 1962 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1962 Ratio	1976 At 400/100,000
1,597	2,240	Diploma or A.A. Degree 67%	1,682	2,361
477	669	Baccalaureate 20%	502	705
310	435	Master's or Doctoral 13%	326	458
2,384	3,344	Total	2,510	3,524

Average Number of Additional R.N.'s Needed Annually, 1962-1970

	At 1962 Ratio			At 400/100,000		
Academic Credential	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total
Diploma or A.A. Degree	—	80	80	81	96	177
Baccalaureate	17	21	38	41	25	66
Master's and Doctoral	34	9	43	50	12	62
Total	51	110	161	172	133	305

Average Number of Additional R.N.'s Needed Annually, 1970-1976

	At 1962 Ratio			At 400/100,000		
Diploma or A.A. Degree	14	82	96	20	115	135
Baccalaureate	4	24	28	6	34	40
Master's and Doctoral	3	16	19	4	22	26
Total	21	122	143	30	171	201

Nursing Education Resources—WICHE Survey, January 1965

				Nurse Faculty, 1965, by Highest Academic Credential				
Type Program	Number	Number Responding	1964-65 Enrollment	A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	2	2	159	—	13	5	—	—
Associate Degree	1	1	21	—	1	2	—	—
Baccalaureate	1	1	215	—	2	19	—	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal	4	4	395	—	16	26	—	—
Practical Nursing	1	1	67	—	1	4	—	—
Total	5	5	462	—	17	30	—	—

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

	Number Needed	
Type Program	1965	1966-70
Diploma	3	—
Associate Degree	3	1
Baccalaureate and Baccalaureate and Graduate	6	2
Practical Nursing	1	1
Total	13	4

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

IDAHO

Population	
1964	692,000
1970	786,000 (Est.)
Growth 1964-1970	94,000 (Est.)
1976	828,000 (Est.)
Growth 1970-1976	42,000 (Est.)
R.N./Population Ratio, 1964	277

Employed RN's 1964

Academic Credential	Number	Percent of Total
Diploma or AA degree	1,745	91.2
Baccalaureate	128	6.7
Master's or doctoral	40	2.1
Total	1,913	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	59	62
Pre-service Baccalaureate	7	7
R.N. Baccalaureate	0.3	0
Master's and Doctoral	—	—

Employed Registered Nurses Needed in:

1970 At 1964 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1964 Ratio	1976 At 400/100,000
1,459	2,106	Diploma or A.A. Degree 67%	1,537	2,219
435	629	Baccalaureate 20%	459	662
283	409	Master's or Doctoral 13%	298	431
2,177	3,144	Total	2,294	3,312

Average Number of Additional R.N.'s Needed Annually, 1964-1970

	At 1964 Ratio			At 400/100,000		
Academic Credential	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total
Diploma or A.A. Degree	0	80	80	60	96	156
Baccalaureate	51	14	65	84	19	103
Master's and Doctoral	41	8	49	62	11	73
Total	92	102	194	206	126	332

Average Number of Additional R.N.'s Needed Annually, 1970-1976

	At 1964 Ratio			At 400/100,000		
Diploma or A.A. Degree	13	75	88	18	108	126
Baccalaureate	4	22	26	6	32	38
Master's and Doctoral	3	15	18	4	21	25
Total	20	112	132	28	161	189

Nursing Education Resources—WICHE Survey, January 1965

				Nurse Faculty, 1965, by Highest Academic Credential				
Type Program	Number	Number Responding	1964-65 Enrollment	A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	1	1	62	4	4	2	—	—
Associate Degree	2	2	110	—	7	4	—	—
Baccalaureate	1	1	70	—	—	5	—	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal	4	4	242	4	11	11	—	—
Practical Nursing	19	13	92	7	4	0	—	—
Total	23	17	334	11	15	11	—	—

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	—	—
Associate Degree	2	3
Baccalaureate and Baccalaureate and Graduate	1	—
Practical Nursing	2	1
Total	5	4

For source of data and explanatory notes see introduction to this Appendix.

MONTANA

POPULATION		
1964	705,000	
1970	776,000	(Est.)
Growth 1964-1970	71,000	(Est.)
1976	908,000	(Est.)
Growth 1970-1976	132,000	(Est.)
R.N./Population Ratio, 1964	374	

EMPLOYED RN'S 1964

ACADEMIC CREDENTIAL	NUMBER	PERCENT OF TOTAL*
Diploma or AA degree	2,2[illegible]	85.5
Baccalaureate	3[illegible]	12.2
Master's or doctoral	61	2.3
Total	2,637	100.0

NURSING STUDENTS GRADUATED

ACADEMIC CREDENTIAL	ANNUAL AVER. 1959-1964	1964
Diploma or A.A. Degree	97	90
Pre-service Baccalaureate	37	26
R.N. Baccalaureate	19	17
Master's and Doctoral	10	16

EMPLOYED REGISTERED NURSES NEEDED IN:

1970			1976	
AT 1964 RATIO	AT 400/100,000	ACADEMIC CREDENTIAL	AT 1964 RATIO	AT 400/100,000
1,944	2,080	Diploma or A.A. Degree 67%	2,275	2,433
580	621	Baccalaureate 20%	679	726
377	403	Master's or Doctoral 13%	441	473
2,901	3,104	Total	3,395	3,632

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1964-1970

	AT 1964 RATIO			AT 400/100,000		
ACADEMIC CREDENTIAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL
Diploma or A.A. Degree	0	105	105	0	108	108
Baccalaureate	43	23	66	50	23	73
Master's and Doctoral	53	11	64	57	12	69
Total	96	139	235	107	143	250

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	AT 1964 RATIO			AT 400/100,000		
Diploma or A.A. Degree	55	105	160	59	113	172
Baccalaureate	17	31	48	18	34	52
Master's and Doctoral	11	21	32	12	22	34
Total	83	157	240	89	169	258

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

				NURSE FACULTY, 1965, BY HIGHEST ACADEMIC CREDENTIAL				
TYPE PROGRAM	NUMBER	NUMBER RESPONDING	1964-65 ENROLLMENT	A.A. OR NO DEGREE	BACCALAUREATE	MASTER'S	ED.D.	PH.D.
Diploma	5	4	226	2	20	6	—	—
Associate Degree	—	—	—	—	—	—	—	—
Baccalaureate	—	—	372 Bacc.	—	7	19	—	—
Baccalaureate and Graduate	1	1	6 (Masters, Post. M.)	—	—	—	—	—
Subtotal	6	5	604	2	27	25	—	—
Practical Nursing	7	7	137	1	10	—	—	—
Total	13	12	741	3	37	25	—	—

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

TYPE PROGRAM	NUMBER NEEDED 1965	1966-70
Diploma	11	10
Associate Degree	—	—
Baccalaureate and Baccalaureate and Graduate	4	6
Practical Nursing	6	3
Total	21	19

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

NEVADA

POPULATION	
1962	350,000
1970	391,000 (Est.)
Growth 1962-1970	41,000 (Est.)
1976	523,000 (Est.)
Growth 1970-1976	132,000 (Est.)
R.N./Population Ratio, 1962	254

EMPLOYED RN'S 1962

ACADEMIC CREDENTIAL	NUMBER	PERCENT OF TOTAL*
Diploma or AA degree	797	89.7
Baccalaureate	80	9.0
Master's or doctoral	11	1.3
Total	888	100.0

NURSING STUDENTS GRADUATED

ACADEMIC CREDENTIAL	ANNUAL AVER. 1959-1964	1964
Diploma or A.A. Degree	—	—
Pre-service Baccalaureate	4	10
R.N. Baccalaureate	1.3	3
Master's and Doctoral	—	—

EMPLOYED REGISTERED NURSES NEEDED IN:

1970			1976	
AT 1962 RATIO	AT 400/100,000	ACADEMIC CREDENTIAL	AT 1962 RATIO	AT 400/100,000
665	1,048	Diploma or A.A. Degree 67%	890	1,402
199	313	Baccalaureate 20%	266	418
129	203	Master's or Doctoral 13%	172	272
993	1,564	Total	1,328	2,092

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1962-1970

	AT 1962 RATIO			AT 400/100,000		
ACADEMIC CREDENTIAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL
Diploma or A.A. Degree	0	37	37	31	46	77
Baccalaureate	15	7	22	29	10	39
Master's and Doctoral	15	4	19	24	4	28
Total	30	48	78	84	60	144

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	AT 1962 RATIO			AT 400/100,000		
Diploma or A.A. Degree	37	39	76	59	61	120
Baccalaureate	11	12	23	18	18	36
Master's and Doctoral	7	8	15	12	12	24
Total	55	59	114	89	91	180

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

				NURSE FACULTY, 1965, BY HIGHEST ACADEMIC CREDENTIAL				
TYPE PROGRAM	NUMBER	NUMBER RESPONDING	1964-65 ENROLLMENT	A.A. OR NO DEGREE	BACCALAUREATE	MASTER'S	ED.D.	PH.D.
Diploma	—	—	—	—	—	—	—	—
Associate Degree	1	1	—	(admitted first students 1 Sept. 1965)			—	—
Baccalaureate	1	1	89	—	3	6	2	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal	2	2	89	—	3	6	2	—
Practical Nursing	8	7	84	6	1	1	—	—
Total	10	9	173	6	4	7	2	—

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

TYPE PROGRAM	NUMBER NEEDED	
	1965	1966-70
Diploma		
Associate Degree	3	3
Baccalaureate and Baccalaureate and Graduate	4	—
Practical Nursing	1	—
Total	8	3

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

NEW MEXICO

POPULATION		
1964	1,008,000	
1970	1,282,000	(Est.)
Growth 1964-1970	274,000	(Est.)
1976	1,255,000	(Est.)
Growth 1970-1976	-27,000	(Est.)
R.N./Population Ratio, 1964	221	

EMPLOYED RN'S 1964

ACADEMIC CREDENTIAL	NUMBER	PERCENT OF TOTAL
Diploma or AA degree	1964	88.2
Baccalaureate	229	10.3
Master's or doctoral	34	1.5
Total	2227	100.0

NURSING STUDENTS GRADUATED

ACADEMIC CREDENTIAL	ANNUAL AVER. 1959-1964	1964
Diploma or A.A. Degree	15	25
Pre-service Baccalaureate	13	19
R.N. Baccalaureate	6	3
Master's and Doctoral	–	–

EMPLOYED REGISTERED NURSES NEEDED IN:

1970			1976	
AT 1964 RATIO	AT 400/100,000	ACADEMIC CREDENTIAL	AT 1964 RATIO	AT 400/100,000
1,898	3,436	Diploma or A.A. Degree 67%	1,859	3,363
567	1,026	Baccalaureate 20%	554	1,004
368	666	Master's or Doctoral 13%	361	653
2,833	5,128	Total	2,774	5,020

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1964-1970

	AT 1964 RATIO			AT 400/100,000		
ACADEMIC CREDENTIAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL
Diploma or A.A. Degree	0	97	97	245	135	380
Baccalaureate	56	20	76	133	31	164
Master's and Doctoral	56	10	66	105	18	123
Total	112	127	239	483	184	667

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	AT 1964 RATIO			AT 400/100,000		
Diploma or A.A. Degree	–	94	94	–	170	170
Baccalaureate	–	28	28	–	51	51
Master's and Doctoral	–	18	18	–	33	33
Total	–	140	140	–	254	254

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

				NURSE FACULTY, 1965, BY HIGHEST ACADEMIC CREDENTIAL				
TYPE PROGRAM	NUMBER	NUMBER RESPONDING	1964-65 ENROLLMENT	A.A. OR NO DEGREE	BACCALAUREATE	MASTER'S	ED.D.	PH.D.
Diploma	1	1	68	1	6	1	–	–
Associate Degree	–	–	–	–	–	–	–	–
Baccalaureate	1	1	188	–	1	9	2	–
Baccalaureate and Graduate	–	–	–	–	–	–	–	–
Subtotal	2	2	256	1	7	10	2	–
Practical Nursing	6	5	163	2	16	3	–	–
Total	8	7	419	3	23	13	2	–

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

	NUMBER NEEDED	
TYPE PROGRAM	1965	1966-70
Diploma	–	6
Associate Degree	–	–
Baccalaureate and Baccalaureate and Graduate	2	11
Practical Nursing	3	6
Total	5	23

For source of data and explanatory notes see introduction to this Appendix.

OREGON

Population	
1964	1,871,000
1970	1,888,000 (Est.)
Growth 1964-1970	17,000 (Est.)
1976	2,415,000 (Est.)
Growth 1970-1976	527,000 (Est.)
R.N./Population Ratio, 1964	312

Employed RN's 1964

Academic Credential	Number	Percent of total
Diploma or AA degree	4532	77.7
Baccalaureate	1208	20.7
Master's or doctoral	96	1.6
Total	5,836	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	132	149
Pre-service Baccalaureate	85	112
R.N. Baccalaureate	22	32
Master's and Doctoral	9	11

Employed Registered Nurses Needed in:

1970			1976	
At 1964 Ratio	At 400/100,000	Academic Credential	At 1964 Ratio	At 400/100,000
3,946	5,060	Diploma or A.A. Degree 67%	5,048	6,472
1,178	1,510	Baccalaureate 20%	1,507	1,932
766	982	Master's or Doctoral 13%	980	1,256
5,890	7,552	Total	7,535	9,660

Average Number of Additional R.N.'s Needed Annually, 1964-1970

	At 1964 Ratio			At 400/100,000		
Academic Credential	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total	To meet pop. growth and achieve desired comp. by acad. credential	To replace attrition of 5% annually	Total
Diploma or A.A. Degree	—	212	212	88	240	328
Baccalaureate	—	60	60	50	68	118
Master's and Doctoral	112	22	134	148	27	175
Total	112	294	406	286	335	621

Average Number of Additional R.N.'s Needed Annually, 1970-1976

	At 1964 Ratio			At 400/100,000		
Diploma or A.A. Degree	184	225	409	235	288	523
Baccalaureate	55	67	122	70	86	156
Master's and Doctoral	36	47	83	46	56	102
Total	275	339	614	351	430	781

Nursing Education Resources—WICHE Survey, January 1965

				Nurse Faculty, 1965, by Highest Academic Credential				
Type Program	Number	Number Responding	1964-65 Enrollment	A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	3	3	605	14	29	7	—	—
Associate Degree								
Baccalaureate	1	1 }	355 Bacc.	—	2	11	—	—
Baccalaureate and Graduate	1	1 }	21 (Masters, Post. M.)	—	4	33	—	—
Subtotal	5	5	981	14	35	51	—	—
Practical Nursing	10	10	236	4	6	6	—	—
Total	15	15	1,217	18	41	57	—	—

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	14	32
Associate Degree	—	—
Baccalaureate and Baccalaureate and Graduate	4	10
Practical Nursing	8	4
Total	26	46

For source of data and explanatory notes see introduction to this Appendix.

UTAH

POPULATION		
1964	992,000	
1970	1,081,000	(Est.)
Growth 1964-1970	89,000	(Est.)
1976	1,297,000	(Est.)
Growth 1970-1976	216,000	(Est.)
R.N./Population Ratio, 1964	245	

EMPLOYED RN's 1964

ACADEMIC CREDENTIAL	NUMBER	PERCENT OF TOTAL
Diploma or AA degree	1,898	78.0
Baccalaureate	467	19.2
Master's or doctoral	68	2.8
Total	2,433	100.0

NURSING STUDENTS GRADUATED

ACADEMIC CREDENTIAL	ANNUAL AVER. 1959-1964	1964
Diploma or A.A. Degree	98	100
Pre-service Baccalaureate	47	51
R.N. Baccalaureate	17	17
Master's and Doctoral	5	13

EMPLOYED REGISTERED NURSES NEEDED IN:

1970 At 1964 RATIO	1970 At 400/100,000	ACADEMIC CREDENTIAL	1976 At 1964 RATIO	1976 At 400/100,000
1,774	2,897	Diploma or A.A. Degree 67%	2,129	3,476
530	865	Baccalaureate 20%	636	1,038
344	562	Master's or Doctoral 13%	413	674
2,648	4,324	Total	3,178	5,188

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1964-1970

	AT 1964 RATIO			AT 400/100,000		
ACADEMIC CREDENTIAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL
Diploma or A.A. Degree	0	92	92	167	120	287
Baccalaureate	11	25	36	66	33	99
Master's and Doctoral	46	10	56	82	16	98
Total	57	127	184	315	169	484

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	AT 1964 RATIO			AT 400/100,000		
Diploma or A.A. Degree	59	98	157	97	159	256
Baccalaureate	18	29	47	29	48	77
Master's and Doctoral	12	19	31	19	31	50
Total	89	146	235	145	238	383

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

				NURSE FACULTY, 1965, BY HIGHEST ACADEMIC CREDENTIAL				
TYPE PROGRAM	NUMBER	NUMBER RESPONDING	1964-65 ENROLLMENT	A.A. OR NO DEGREE	BACCALAUREATE	MASTER'S	ED.D.	PH.D.
Diploma	3	3	184	1	11	8	—	—
Associate Degree	2	2	206		7	4	—	—
Baccalaureate	1	1	472 Bacc. 26 (Masters, Post. M.)	1	11	10	—	—
Baccalaureate and Graduate	1	1		—	1	27	—	—
Subtotal	7	7	888	2	30	49	—	—
Practical Nursing	2	2	76	3	9	1	—	—
Total	9	9	964	5	39	50	—	—

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

TYPE PROGRAM	NUMBER NEEDED 1965	NUMBER NEEDED 1966-70
Diploma	9	4
Associate Degree	5	2
Baccalaureate and Baccalaureate and Graduate	11	19
Practical Nursing	4	2
Total	29	27

For source of data and explanatory notes see introduction to this Appendix.

WASHINGTON

Population	
1962	3,010,000
1970	3,300,000 (Est.)
Growth 1962-1970	290,000 (Est.)
1976	3,844,000 (Est.)
Growth 1970-1976	544,000 (Est.)
R.N./Population Ratio, 1962	333

Employed RN's 1962

Academic Credential	Number	Percent of total*
Diploma or AA degree	8,230	82.1
Baccalaureate	1,664	16.6
Master's or doctoral	130	1.3
Total	10,024	100.0

Nursing Students Graduated

Academic Credential	Annual Aver. 1959-1964	1964
Diploma or A.A. Degree	259	290
Pre-service Baccalaureate	154	151
R.N. Baccalaureate	59	73
Master's and Doctoral	47	60

Employed Registered Nurses Needed in:

1970 At 1962 Ratio	1970 At 400/100,000	Academic Credential	1976 At 1962 Ratio	1976 At 400/100,000
7,362	8,844	Diploma or A.A. Degree 67%	8,577	10,302
2,198	2,640	Baccalaureate 20%	2,560	3,075
1,429	1,716	Master's or Doctoral 13%	1,664	1,999
10,989	13,200	Total	12,801	15,376

Average Number of Additional R.N.'s Needed Annually, 1962-1970

Academic Credential	At 1962 Ratio: To meet pop. growth and achieve desired comp. by acad. credential	At 1962 Ratio: To replace attrition of 5% annually	At 1962 Ratio: Total	At 400/100,000: To meet pop. growth and achieve desired comp. by acad. credential	At 400/100,000: To replace attrition of 5% annually	At 400/100,000: Total
Diploma or A.A. Degree	0	390	390	77	427	504
Baccalaureate	67	97	164	122	108	230
Master's and Doctoral	162	39	201	198	46	244
Total	229	526	755	397	581	978

Average Number of Additional R.N.'s Needed Annually, 1970-1976

	At 1962 Ratio			At 400/100,000		
Diploma or A.A. Degree	203	398	601	243	479	722
Baccalaureate	60	119	179	73	143	216
Master's and Doctoral	39	77	116	47	93	140
Total	302	594	896	363	715	1,078

Nursing Education Resources—WICHE Survey, January 1965

Type Program	Number	Number Responding	1964-65 Enrollment	Nurse Faculty, 1965, by Highest Academic Credential: A.A. or no degree	Baccalaureate	Master's	Ed.D.	Ph.D.
Diploma	10	10	766	14	45	21	—	—
Associate Degree	5	5	196	2	11	11	—	—
Baccalaureate	4	4	1,212 Bacc.	—	9	34	—	1
Baccalaureate and Graduate	1	1	151 (Masters, Post. M.)	—	2	45	2	3
Subtotal	20	20	2,325	16	67	111	2	4
Practical Nursing	24	21	674	17	31	14	—	—
Total	44	41	2,999	33	98	125	2	4

Additional Nurse Faculty required to meet future needs of schools responding to January 1965 WICHE survey

Type Program	Number Needed 1965	Number Needed 1966-70
Diploma	21	27
Associate Degree	11	3½
Baccalaureate and Baccalaureate and Graduate	26	65
Practical Nursing	23	7
Total	81	102½

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

WYOMING

POPULATION		
1962	332,000	
1970	376,000	(Est.)
Growth 1962-1970	44,000	(Est.)
1976	393,000	(Est.)
Growth 1970-1976	17,000	(Est.)
R.N./Population Ratio, 1962	321	

EMPLOYED RN'S 1962

ACADEMIC CREDENTIAL	NUMBER	PERCENT OF TOTAL*
Diploma or AA degree	993	93.2
Baccalaureate	66	6.2
Master's or doctoral	7	0.6
Total	1,066	100.0

NURSING STUDENTS GRADUATED

ACADEMIC CREDENTIAL	ANNUAL AVER. 1959-1964	1964
Diploma or A.A. Degree	6	8
Pre-service Baccalaureate	12	19
R.N. Baccalaureate	0.6	0
Master's and Doctoral	—	—

EMPLOYED REGISTERED NURSES NEEDED IN:

1970			1976	
AT 1962 RATIO	AT 400/100,000	ACADEMIC CREDENTIAL	AT 1962 RATIO	AT 400/100,000
809	1,008	Diploma or A.A. Degree 67%	846	1,054
241	301	Baccalaureate 20%	252	314
157	195	Master's or Doctoral 13%	164	204
1,207	1,504	Total	1,262	1,572

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1962-1970

	AT 1962 RATIO			AT 400/100,000		
ACADEMIC CREDENTIAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL	TO MEET POP. GROWTH AND ACHIEVE DESIRED COMP. BY ACAD. CREDENTIAL	TO REPLACE ATTRITION OF 5% ANNUALLY	TOTAL
Diploma or A.A. Degree	0	45	45	2	50	52
Baccalaureate	22	8	30	29	9	38
Master's and Doctoral	19	4	23	24	4	28
Total	41	57	98	55	63	118

AVERAGE NUMBER OF ADDITIONAL R.N.'S NEEDED ANNUALLY, 1970-1976

	AT 1962 RATIO			AT 400/100,000		
Diploma or A.A. Degree	6	41	47	8	52	60
Baccalaureate	2	12	14	2	15	17
Master's and Doctoral	1	8	9	2	10	12
Total	9	61	70	12	77	89

NURSING EDUCATION RESOURCES—WICHE SURVEY, JANUARY 1965

				NURSE FACULTY, 1965, BY HIGHEST ACADEMIC CREDENTIAL				
TYPE PROGRAM	NUMBER	NUMBER RESPONDING	1964-65 ENROLLMENT	A.A. OR NO DEGREE	BACCALAUREATE	MASTER'S	ED.D.	PH.D.
Diploma	—	—	—	—	—	—	—	—
Associate Degree								
Baccalaureate	1	1	196	—	1	14	1	—
Baccalaureate and Graduate	—	—	—	—	—	—	—	—
Subtotal	1	1	196	—	1	14	1	—
Practical Nursing	1	0	—	—	—	—	—	—
Total	2	1	196	—	1	14	1	—

ADDITIONAL NURSE FACULTY REQUIRED TO MEET FUTURE NEEDS OF SCHOOLS RESPONDING TO JANUARY 1965 WICHE SURVEY

	NUMBER NEEDED	
TYPE PROGRAM	1965	1966-70
Diploma	—	—
Associate Degree	—	—
Baccalaureate and Baccalaureate and Graduate	3	7
Practical Nursing	—	—
Total		

For source of data and explanatory notes see introduction to this Appendix.
*Estimate. See paragraph A4b, introduction to this Appendix.

SUMMARY OF STATE TABLES

Number of additional registered nurses needed annually with each type of academic preparation to maintain and/or achieve the indicated nurse-population ratios, and recommended composition at work-force by type preparation[1]

			Period					
			Base Year to 1970[3] Type academic preparation			1970 to 1976[3] Type academic preparation		
State	Base Year[2]	Nurse-Population Ratio (Nurses/ 100,000 population	Associate Degree or Diploma	Bacc.	Master's or Doctoral	Associate Degree or Diploma	Bacc.	Master's or Doctoral
ALASKA	1962	288	26	11	13	43	13	8
		400	56	21	20	62	19	12
ARIZONA	1964	339	277	171	160	257	77	50
		400	440	222	192	302	90	59
CALIFORNIA	1962	306	2,374	1,135	1,178	3,064	914	595
		400	4,412	1,744	1,573	4,005	1,195	777
COLORADO	1964	407	301	115	182	522	156	101
HAWAII	1962	285	80	38	43	96	28	19
		400	177	66	62	135	40	26
IDAHO	1964	277	80	65	49	88	26	18
		400	156	103	73	126	38	25
MONTANA	1964	374	105	86	64	160	48	32
		400	108	73	69	172	52	34
NEVADA	1962	254	37	22	19	76	23	15
		400	77	39	28	120	36	24
NEW MEXICO	1964	221	97	76	66	94	28	18
		400	380	164	123	170	51	33
OREGON	1964	312	212	60	134	409	122	83
		400	328	118	175	523	156	102
UTAH	1964	245	92	36	56	157	47	31
		400	287	99	98	256	77	50
WASHINGTON	1962	333	390	164	201	601	179	116
		400	504	230	244	722	216	140
WYOMING	1962	321	45	30	23	47	14	9
		400	52	38	28	60	17	12
THE WEST	total of State's Needs	Base Year Ratios[4]	4,116	1,989	2,188	5,614	1,675	1,095
		400[4]	7,278	3,032	2,867	7,175	2,143	1,395

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[1] 67 percent - diploma or associate degree, 20 percent - baccalaureate, 13 percent - master's or doctoral.
[2] Most recent year for which information on number of employed registered nurses was available.
[3] Projections based on achievement of recommended composition of work force by 1970.
[4] Includes Colorado

SUMMARY OF STATE TABLES

Graduations from nursing education programs by type.

	Period					
	Average Annual—1959 through 1964			1964		
	Type Program			Type Program		
State	Associate Degree and Diploma	Baccalaureate[1]	Master's and Doctoral	Associate Degree and Diploma	Baccalaureate[1]	Master's and Doctoral
ALASKA	0	0	0	0	0	0
ARIZONA	129	**20** 11	0	136	**43** 15	0
CALIFORNIA	897	**282** 153	98	1,133	**326** 176	143
COLORADO	128	**86** 42	49	162	**79** 51	49
HAWAII	62	**24** 9	0	46	**24** 2	0
IDAHO	59	**7** 0.3	0	62	**7** 0	0
MONTANA	97	**37** 19	10	90	**26** 17	16
NEVADA	0	**4** 1.3	0	0	**10** 3	0
NEW MEXICO	15	**13** 6	0	25	**19** 3	0
OREGON	132	**85** 22	9	149	**112** 32	11
UTAH	98	**47** 17	5	100	**51** 17	13
WASHINGTON	259	**154** 59	47	290	**151** 73	60
WYOMING	6	**12** 0.6	0	8	**19** 0	0
THE WEST	1,881	**770** 340	216	2,201	**867** 389	283

[1] Pre-service (bold face)
Registered Nurse (lite face)

APPENDIX D

GUIDELINES

Western Council
on Higher Education
for Nursing

sponsored by

The Western
Interstate Commission
for Higher Education

Program Planning

Associate Degree Programs attract students by offering sound preparation in a collegiate setting at relatively low cost to the student. The program should be established only where the goals can be achieved by the particular community under consideration.

The following elements are essential for initial planning in:

The Community

1. A college which grants the Associate Degree.
2. A sufficient number of students interested in nursing as a career.
3. Clinical agencies willing to provide learning experiences adequate to meet the objectives of the program.
4. Reasonable assurance of employment for graduates in the types of positions for which they will be prepared.

The College

1. Accreditation by the appropriate agencies in the state and region.
2. Program responsibility and control vested in the college and nursing department.
3. Faculty qualified to teach in the college.
4. General education courses in addition to the nursing major.
5. Finances sufficient to cover the cost which would include adequate educational facilities and secretarial assistance.

The Administrator of the Nursing Program

Qualifications

1. A master's degree in nursing as minimum academic preparation.
2. Adequate educational and practical experience in nursing and administration.
3. Well-versed, either through academic preparation or experience, in the philosophy and objectives of education in junior colleges.

Responsibilities

1. Planning period approximately one year prior to admission of students.
2. Initiating contractual agreements with clinical agencies.
3. Coordinating program with college administration, clinical agencies, and licensing board.

The Faculty

Qualifications:

1. A master's degree in nursing as minimum academic preparation.
2. Adequate experience in nursing practice.

Responsibilities

1. Curriculum planning with appropriate consultation from community groups.
2. Selecting clinical experiences in cooperation with designated agencies.
3. Interpreting program, goals, objectives, and functional level of graduates clearly.
4. Planning program evaluation as an on-going process.

The Students

1. Meet standards for admission and graduation as required by college.
2. Meet any additional standards set by the nursing department.
3. Eligible to participate in regular college activities.
4. Eligible to take state licensing examination upon graduation.

Community Responsibility

A baccalaureate program in nursing helps to meet the nursing needs of the community/state/region. Existing nursing programs in the area should be taken into consideration in determining the need and feasibility of a new baccalaureate program.

Advisory committees on nursing and other community planning groups can secure consultation services from state boards of nursing, local accredited baccalaureate programs, local leagues for nursing, the National League for Nursing, and WCHEN.[3]

The characteristics of the population, the projected growth of the community, and plans for construction of new health facilities are factors to be considered. The availability and proximity of hospitals, public health facilities, and other community agencies in the area which can serve as extended campus facilities are vital to the success of the program.

Support for the program should be demonstrated by local nursing, medical, hospital, and other professional associations.

College or University Responsibility

In initiating a baccalaureate program in nursing, the college or university commits itself to the quality of the program in all its aspects, academic and clinical. The nursing program is an integral part of the college or university with the general philosophy, policies, organization and standards consistent with those of the parent institution. The nurse faculty should be given authority for planning the nursing program, teaching, selection and counseling of students, and for the recommendation of candidates for the degree.

Other college or university departments expected to provide certain courses required for the nursing major should participate in the development of the baccalaureate program in nursing. There should be cooperation between the nursing faculty and other faculties in the college or university in the conduct of the educational programs.

The college or university should be accredited by its regional accrediting association. It should be organized in such a way that the responsibility and authority for the conduct of the program is delegated to qualified nurse educators.

The Criteria for Evaluation of Educational Programs in Nursing[4] may be used for planning a program which may lead to accreditation by the National League for Nursing.

For licensure of graduates, the program must be initially approved by the state board of nursing before the first class is admitted to the new program.

The college or university should assume responsibility for providing adequate and stable financial support of the nursing program including funds for:

Adequate faculty — number and quality.
Faculty travel to extended campus facilities and professional meetings.
Agency membership in the Council of Member Agencies, Department of Baccalaureate and Higher Degree Programs, National League for Nursing.
Adequate secretarial assistance.

Facilities

On-Campus Educational Facilities

Educational facilities - laboratories, classrooms and faculty offices - should be adequate for maintaining educational standards.
Library resources include significant reference works as well as a file of the periodicals of professional nursing and allied fields.
Modern office equipment and adequate secretarial assistance are essential to optimum use of skilled nurse faculty.

Extended Campus Educational Facilities

The faculty in nursing should arrange for student instruction in appropriate clinical facilities, including hospitals and other health and social agencies. These extended campus facilities and their standards for nursing care should provide high-quality nursing service and an environment in which learning can take place.

The faculty of the college or university should be directly responsible for the continuous education of students in all extended campus facilities.

Space, facilities, and other resources to carry out effectively the educational objectives should be available in the extended campus facilities.

Written agreements should be negotiated with the cooperating agency.

Faculty

In initiating a program, faculty should be chosen with a range of experience in teaching and nursing. The dean or director should possess a master's or higher degree in nursing and have broad experience in nursing and nursing education. Each nurse member of the faculty should have at least a master's degree, with a major in the nursing clinical area in which she teaches.

Full-time faculty members with competence in the areas of medical-surgical, maternal-child health, psychiatric, and public health nursing should be employed.

Nurse faculty members should be encouraged to participate in and be given time for academic, community, and professional activities. They should be expected to assume leadership in advancing the objectives of the profession.

Students

Potential student enrollment should be studied before planning is begun for the nursing program.[3]

Students admitted to the baccalaureate program in nursing shall meet the requirements of the college or university.

They should have the same opportunities to share in college life as do other students.

Program

The baccalaureate program should provide for a fusion of the liberal arts, the basic sciences, nursing theory, and nursing practice which constitutes a unified whole and results in broad preparation and liberal education of the individual.

The nursing major consists of a sequence of lower and upper division courses in liberal arts and sciences upon which the nursing courses are built, so that the graduates of the program meet the objectives of baccalaureate programs in nursing as stated in these *Guidelines*.

Graduates of baccalaureate programs in nursing, with academic eligibility, should be prepared for admission to graduate programs in nursing.

The Registered Nurse Student

Many registered nurses are seeking baccalaureate degrees in nursing. The baccalaureate programs in nursing for registered nurses should provide preparation which approximates that for students who have had no previous preparation in nursing. Objectives of baccalaureate programs should be the same for both groups of students. The manner in which these objectives are attained varies with the individual schools of nursing. All registered nurse students should have courses in clinical laboratory experience, on an upper division level.

Beginning preparation for teaching, supervision, and clinical specialization is provided at the master's degree level.

FOOTNOTES

1. National League for Nursing, *State Approved Schools of Professional Nursing*, New York, 1961.

2. "The 1960 ANA Convention," *American Journal of Nursing* LX (1960), 832. See also "Principles Governing Professional Nursing Education . . . ANA's Proposed Goal Three," *American Journal of Nursing* LXII (1962), 56-58.

3. National League for Nursing
   10 Columbus Circle, New York 19, N. Y.
   Western Council on Higher Education for Nursing
   Fleming Law Building, Boulder, Colorado

4. National League for Nursing, *Criteria for the Evaluation of Educational Programs in Nursing That Lead to the Baccalaureate or Masters Degrees*, New York, 1960.

5. Western Interstate Commission for Higher Education, *Nurses for the West*, Boulder, Colorado, The Commission, 1959.

Guidelines for graduate education in nursing in the west

Membership in the Council is open to all accredited Western colleges and universities which have graduate, baccalaureate, or associate degree programs in nursing. Sixty-two institutions are presently active participants in the Council. Nurse educators are appointed as representatives to the Council by the presidents of their respective institutions. Each baccalaureate and associate degree program in nursing has one representative on the Council, and each institution offering a graduate program in nursing has three additional representatives. A Nurse Consultant, a Coordinator of Special Nursing Programs, and a Secretary, all of whom are staff members of the Western Interstate Commission for Higher Education, administer the programs of the Council.

The program of the Council is implemented through four seminars — the Graduate, the Baccalaureate, the Associate Degree, and the Continuation Education. Educational preparation for nurses at the master's and doctoral levels and research in nursing are the primary concerns of the Graduate Seminar. The activities of the Baccalaureate Seminar are directed toward basic baccalaureate nursing education and the baccalaureate level preparation of the registered nurse who is a graduate of either a diploma or an associate degree program. The Associate Degree Seminar devotes its attention to preparation for nursing practice in the two-year, or junior college, program. The Continuation Education Seminar coordinates a regional program of short-term courses for nurses in leadership positions.

The Council is not an accrediting agency. Basic educational programs in nursing must be approved by the boards of legal control in their respective states. Graduate, baccalaureate, and associate degree programs may be accredited by the National League for Nursing.

I. Introduction

Nurses in leadership positions exert considerable influence on the quality of nursing care provided to society. Therefore, their educational preparation for nursing is of the utmost importance. The effective teacher of nursing must have an expert grasp of the subject matter which she teaches. The nursing supervisor, the nursing consultant, and the nursing administrator also need theoretical foundations and clinical competence beyond that possessed by those whom they guide. Preparation for leadership positions in nursing is accomplished in graduate programs. Master's programs provide initial preparation for clinical specialization, teaching and research — with nursing as the core of the curriculum. Post-master's and doctoral programs provide further specialized preparation for teaching, research, and administration. A flexible and experimental approach to graduate education in nursing is essential to the preparation of individuals qualified to assume leadership roles.

These Guidelines presuppose certain minimum resources, both human and material. Any institution which offers or plans to offer graduate education in nursing should evaluate the resources available to develop a program of high quality. The nature of graduate education requires that it be developed in settings which provide well-developed resources for research and for specialization in clinical nursing.

II. Objectives of Master's Programs in Nursing

Members of the Graduate Seminar of the Western Council on Higher Education for Nursing agree that the objectives of master's programs in nursing should include the development of:

1. Understanding scientific rationale for nursing practice.
2. Understanding scientific method, which involves initiating, conducting, and reporting research relevant to nursing.
3. Understanding the principles of teaching and/or supervision, with competence in practice.
4. Sense of responsibility for leadership in the nursing profession and for interpretation of the aims and goals of the profession.

III. Programs

Each graduate program in nursing assesses and builds upon the understandings and competencies possessed by the student, and contributes to the achievement of the student's major goal.

Graduate programs should include advanced courses in the nursing major, in the behavioral or the natural sciences, and in research.

Evaluation of the program, of its objectives, and of its graduates should be a continuous process.

IV. Faculty

A substantial proportion of faculty teaching in graduate programs should be prepared at the doctoral level. All faculty members who guide students in graduate education should maintain mastery in their field, engage in scholarly study, publish, and assume leadership in advancing nursing knowledge.

V. Institutional Setting

An institution which offers graduate programs in nursing should be accredited by its regional accrediting agency; should be engaged in professional education; must have access to a multidiscipline university center concerned with professional programs in related health fields such as medicine, public health, and social welfare; and should offer an undergraduate program in nursing accredited by the National League for Nursing.

The policies governing the educational unit in nursing should be consistent with the general policies and standards of the institution for all of its graduate education. The institution should assume responsibility for providing adequate financial support for the graduate program in nursing.

Responsibility and authority for the conduct of the graduate programs should be vested in qualified nurse faculty. They should be responsible for planning the nursing program; for selecting, teaching, and advising students; and for examining degree candidates. Adequate secretarial and other staff assistance should be provided to the faculty.

VI. Facilities

Educational facilities must be adequate for maintaining approved standards of graduate education. These facilities include general and biomedical library resources, an adequate number and quality of classrooms, research laboratories, seminar rooms, faculty offices, and student work rooms. Access should be provided to audio-visual aids, including motion picture and television equipment and tape recorders, and to datatron and other aids to statistical studies.

Community and health agencies must be available to facilitate the realization of the objectives of graduate programs. In general, these facilities would include access to university medical and health centers.

VII. Admission to Graduate Programs

The candidate should possess sufficient intellectual capacity to profit from graduate study. The candidate's undergraduate record must be acceptable to the institution's graduate division and to the school of nursing. Variations in the individual education should be given consideration.